

# KV-X2121D

## RM-673

# SERVICE MANUAL

*AEP Model*

*Chassis No. SCC-B14S-A*



## AE-1 CHASSIS

**Note:** The service manual for RM-673 has been issued separately.

### MODELS OF THE SAME SERIES

KV-X2121D	KV-X2521D
KV-DX21TD	KV-DX27TD
KV-X21TD	KV-X25TD

### SPECIFICATIONS

Television system	CCIR B, G and H
Color system	PAL, SECAM, NTSC <sub>3.58</sub> , NTSC <sub>4.43</sub>
Stereo system	German two-carrier system
Channel coverage	VHF channels E2-E12 UHF channels E21-E69 Cable TV channels S1-S20 (A total of up to 30 preselected channels)
Picture tube	Trinitron tube 100-degree deflection Approx. 54.5 cm (21 inches) (Approx. 51 cm picture measured diagonally)
Inputs	21-pin connector : CENELEC Standard 21-pin connector : RGB input unconnected
Outputs	Headphones jack : stereo minijack External speaker terminals : 2-pin DIN Audio output jack : phonojack output level dependent upon TV setting

Power consumption	82 Wh
Dimensions	Approx. 519 × 471 × 463 mm (w/h/d)
Weight	Approx. 26 kg
Supplied accessories	RM-673 Remote Commander (1) IEC designation R6 batteries (2)
Audio output	10 W + 10 W (music power)

Design and specifications are subject to change without notice.




TRINITRON® COLOR TV  
**SONY®**

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### SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK  
 ON THE SCHEMATIC DIAGRAMS, EXPLODED  
 VIEWS AND IN THE PARTS LIST ARE CRITICAL TO  
 SAFE OPERATION. REPLACE THESE COMPONENTS  
 WITH SONY PARTS WHOSE PART NUMBERS APPEAR  
 AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS  
 PUBLISHED BY SONY.

## SECTION 1 GENERAL

**Note)** The layout, etc., will be slightly different from the operating instructions packed with the units.

### 1-1. FIRST OF ALL

- 1 Connect the aerial to the **TR** socket on the rear of the set.  
This socket receives the standard 75-ohm aerial plug.
- 2 Plug in the set.
- 3 Tune in the available channels.

Use the buttons inside the panel. To open the panel, push the center.

To tune in all channels automatically :

- 1 Press  $\rightarrow$  (preset).
- 2 Press **PROGR** to select the program position from which tuning is to start.
- 3 Press  $\rightarrow$  (auto programming).

The channels will be tuned in and memorized in consecutive positions, beginning from the program position selected in step 2.

When tuning has been completed, the set returns to the position where tuning began.

To tune in a channel in any desired program position.  
(e. g. the position which the same number as the channel) :

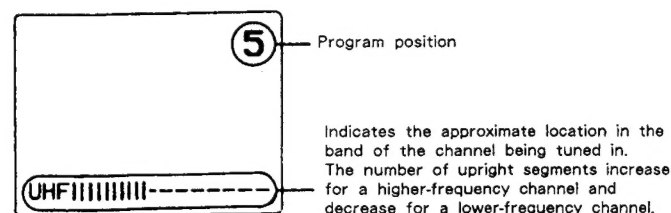
- 1 Press  $\rightarrow$  (preset).
- 2 Press **PROGR** to select the desired program position.
- 3 Press **C** (clear).
- 4 Press  $\oplus$  (search) repeatedly until the desired channel appears.
- 5 Repeat steps 2 to 4 for all channels, if required.
- 6 Press  $\rightarrow$  (preset) again.

If the set is to be used in an area with poor reception, preset the program numbers between 1 and 19 for TV program use.

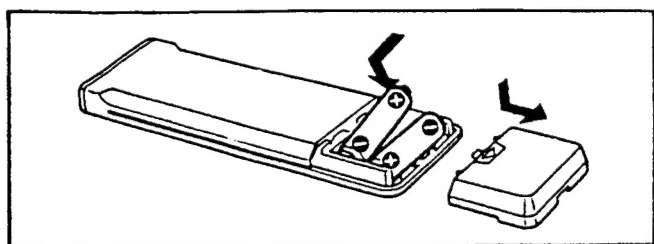
To have the unused program positions skipped when **PROGR+** or **PROGR-** is pressed

- 1 Press  $\rightarrow$  (preset).
- 2 Press **PROGR** to select the unused position.
- 3 Press **C** (clear).
- 4 Repeat steps 2 and 3 for all unused position.
- 5 Press  $\rightarrow$  (preset) again.

On-screen display while tuning

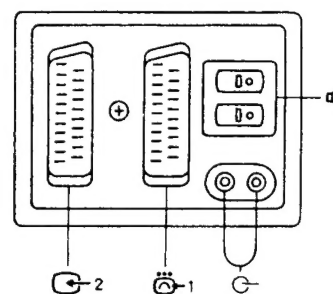


- 4 Insert two R6 batteries checking the correct polarity.



### 1-2. CONNECTING OTHER EQUIPMENT

Connectors on rear set



L/G/S	Left external speaker terminal (2-pin DIN)	Connect to external speakers. The TV speakers will be disconnected. speakers 8-16 Ω
R/D/D	Right external speaker terminal (2-pin DIN)	
R/D/D	Right audio output jack (phono jack)	Connect to audio equipment. When only using the phono-jacks, two loudspeaker plugs, (DIN 41529) should be inserted into the external speaker terminals so that the TV speaker output is switched off.
L/G/S	Left audio output jack (phono jack)	
G-1	21-pin connector (CENELEC standard)	Connect to a VTR micro computer, etc. The picture of the TV channel being received is always output. The picture of G-2 can be watched while recording a TV program with the VTR connected to G-1.
G-2	21-pin connector (without RGB input)	Connect to second VTR. The picture displayed on the screen is always output. The picture of G-1 can be recorded with the VTR connected to G-2 while monitoring the picture.

### VTR operation using the supplied Commander

Remote operation of the VTR is limited to the features and functions of the VTR. For further details, refer to the VTR manual.

When watching a video with the VTR connected to the **TR** connector, set the channel for the video to the program number 0 or any empty channel between 20 and 29.

**Note**

Move the VTR away from the TV, if the picture or sound is distorted.

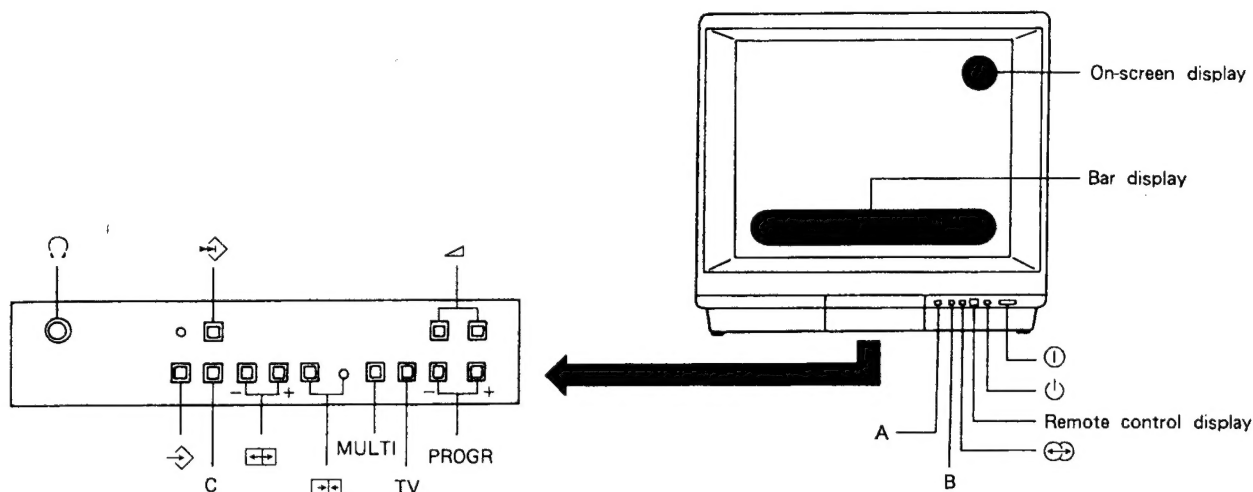
## 21 pin connector (1, 2)

Pin No.	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level : 0.5 Vrms Output impedance : Less than 1 k ohm*
2	○	○	Audio input B (right)	Standard level : 0.5 Vrms Input impedance : More than 10 k ohms*
3	○	○	Audio output A (left)	Standard level : 0.5 Vrms Output impedance : Less than 1 k ohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level : 0.5 Vrms Input impedance : More than 10 k ohms*
7	○	●	Blue input	0.7 V $\pm$ 2 dB, 75 ohms, positive
8	○	○	Function select (AV control)	High state (9.5–12 V) : Part mode Low state (0–2 V) : TV mode Input impedance : More than 10 k ohms Input capacitance : Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green/Green with sync input	Green signal : 0.7 V $\pm$ 2 dB, 75 ohms, positive Green with sync signal : 1 V $\pm$ 2 dB, 75 ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	●	Red input	(Same as Pin 7)
16	○	●	Blanking input (Ys signal)	High state (1–3 V) Low state (0–0.4 V) Input impedance : 75 ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1 V $\pm$ 2 dB, 75 ohms, positive Sync : 0.3 V (–3, $\pm$ 10 dB)
20	○	○	Video input	1 V $\pm$ 2 dB, 75 ohms, positive Sync : 0.3 V (–3, $\pm$ 10 dB)
21	○	○	Common ground (plug, shield)	

\* at 20 Hz–20 kHz ○ connected ● unconnected (open)



## 1-3. FUNCTION OF CONTROLS



### On the set

#### On-screen display

Indicates program numbers and input modes.

#### Bar display

Indicates the level of volume, color, brightness, contrast, bass, treble and balance.

#### Note on function.

When the volume is at the minimum setting the balance function will not operate.

#### ① Power switch

To cut off the mains power completely, press this switch. Depress the power switch fully to ensure correct operation of the set.

#### Note

To ensure correct operation, push the switch in fully.

#### ⏻ standby indicator

Lights up brightly when the set is in the standby mode.

#### Note

If the main power is turned off when in standby mode, the standby indicator will take 2 to 6 seconds to go off.

#### space sound indicator

Lights up when on the Remote Commander is pressed.

#### A/B indicators

One of them lights during bilingual broadcast. (Choose A or B with the Remote Commander.)

Both light during stereo broadcast. In AV mode, A lights for left channel, B for right channel, or A and B for both channels.

#### Remote control detector

Point the Remote Commander towards this detector.

### Inside the panel

#### headphones jack (stereo minijack)

#### SEARCH buttons

Press to fine tune a weak channel manually, if required. When is pressed, the indicator (AFT) goes off and the AFT circuit does not function on the selected channel. To restore the AFT circuit on this channel, press (AFT) so that the indicator lights up.

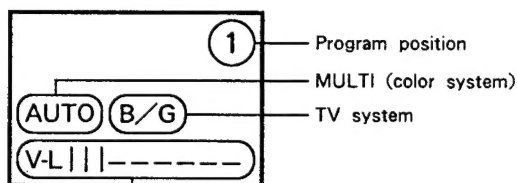
#### AFT button and indicator

Normally, press so that the indicator lights up. The AFT circuit automatically fine tunes the channel for the best possible picture.

#### volume buttons

#### PROGR+, PROGR- program scan buttons

#### On-screen display during presetting



Indicates the approximate location in the band of the channel being tuned in.

"V-L": low VHF band, "V-H": high VHF band, "UHF": UHF band.

The number of upright segments increases for a higher-frequency channel.

Each time TV button is pressed, the following indications appear in this order.

B/G: West European TV standard

I: British TV standard

M: American TV standard

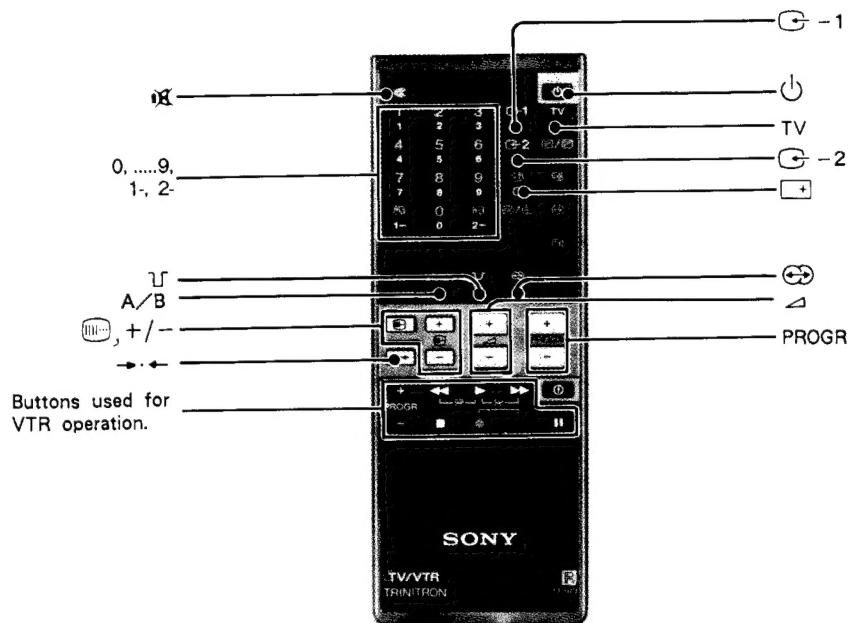
D/K: East European TV standard

L: French TV standard

Each time MULTI button (COLOR SYSTEM) is pressed, the following indications appear in this order.

AUTO; NTSC3.58;

Normally set to the AUTO position. The available color system is selected automatically.



RM-673

## On the Remote Commander

To operate the Commander, point it toward the remote control detector.

### mute button

### 0, ..., 9, 1-, 2- buttons

To tune into :  
program 15, press 1- and 5.  
program 25, press 2- and 5.

### A/B button

Press to select the language in a bilingual broadcast, or to select the channel in AV mode.

### , + / - analogue select buttons

Press .

will appear on the screen. Adjust by pressing + or -. Press again and adjust (color), then (brightness), (bass), (treble) and (balance).

### → • ← reset button

Press to reset color, contrast and brightness to factory-set levels.

### standby button

Press to change to the standby mode. Use this button to turn off the set for short periods of time. To turn on the set, press TV or the program number ; there will be a slight delay before the picture is restored.

If the main power is turned off when in standby mode, the standby indicator will take 2 to 6 seconds to go off.

### TV button

Press to change to the TV mode from standby, input or teletext modes.

### 1 input button

Press to view the input picture coming in through the 1 connector. "G-1" lights up on the screen. Press TV or the program number to return to the TV mode.

### 2 input button

Press to view the input picture coming in through the 2 connector. "G-2" lights up on the screen. Press TV or the program number to return to the TV mode.

### on-screen display button

Press to make the display appear on the screen. Press again to make it disappear.

### loudness button

Press to emphasize high and low notes.

### space sound button

Press to obtain special acoustic effects.

### volume buttons

### PROGR program scan buttons

### Note

Buttons not referred to on this page or next page do not operate.

## 1-4. VIEWING TELETEXT

To view the teletext service, use the Remote Commander. The buttons for teletext operation are indicated in green.

### Operation

- 1 Select the TV channel for the desired teletext service.
- 2 Press (TEXT/MIX) to display the teletext service.  
Once has been pressed, the TV channel cannot be changed.
- 3 Key in the three digits for the desired page using the number buttons. If an error is made, complete the three-digit sequence by keying in any digit. Then re-enter the correct page number. The requested teletext page is displayed.

To return to the TV mode, press TV on the remote commander.

The teletext service can be displayed directly from the standby mode, by pressing .

### To receive the teletext service of a different TV channel

- 1 Press TV to return to the TV mode.
- 2 Select the desired TV channel.
- 3 Press .

### Note

To receive the teletext service accurately, keep inside the panel switched on during teletext operation.

### To display the index page

Press (INDEX).

If the necessary signal is not being broadcast, page 100 is displayed.

### To access the next or preceding page

Press (PAGE+) or (PAGE-).

### To superimpose the teletext display on the TV picture

Press twice from TV mode.

Press again to return to the TEXT display.

### To suppress the teletext display so that the TV picture is displayed

Press (TEXT CL).

This button can be operated from both the TEXT and MIX displays.

### To prevent a teletext page (subpage) from being updated / changed

Press (HOLD). The HOLD symbol appears at the top of the screen.



To resume normal teletext reception, press .

### To enlarge the teletext display

Press .

Press once to enlarge the upper half of the display; press again to enlarge the lower half of the display; press again to return to the normal display.

### To reveal concealed information such as the answers to a quiz

Press (REVEAL).

Press again to conceal the answers.

### To adjust the contrast of the teletext display.

When in teletext mode, adjust by using the + or - keys adjacent to the key.

### To watch the TV program while waiting for a requested page to be displayed

- 1 Request the new page.
- 2 Press to watch the TV program.  
The requested page number appears at the top left of the screen.  
When the requested page has been captured, the page number is displayed in the top left hand corner of the screen.



To view this page, press .

### To have a requested page displayed at a pre-determined time

- 1 Request a time coded page (e. g. alarm page).
- 2 Press (TP ON).  
"T\*\*\*\*" will appear at the bottom of the screen.



- 3 Enter your request time with the number buttons, using four digits. For example, 07 : 30.



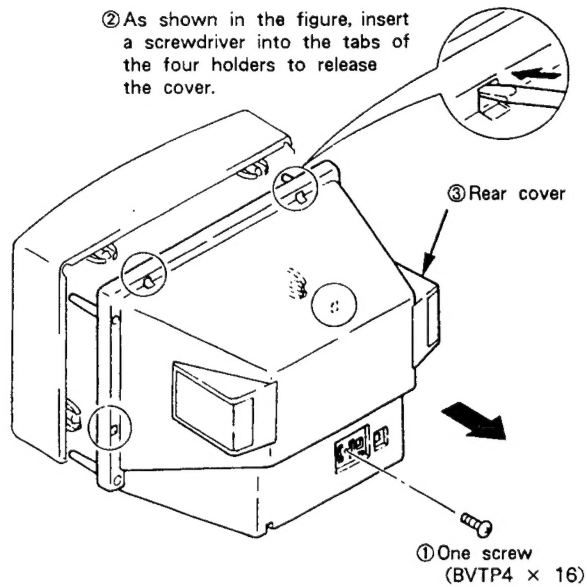
To watch the TV program until the requested time, press . At the requested time, the page number will be displayed at the bottom of the screen.

To view this page, press .

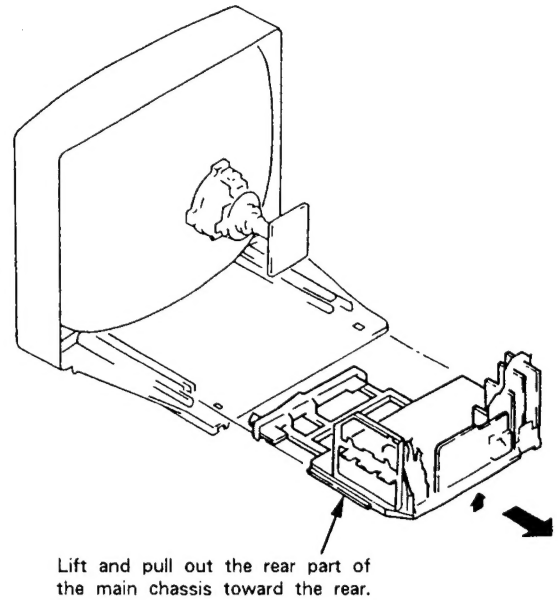
To cancel the request, first ensure that the teletext page is displayed, then press (TP OFF).

## SECTION 2 DISASSEMBLY

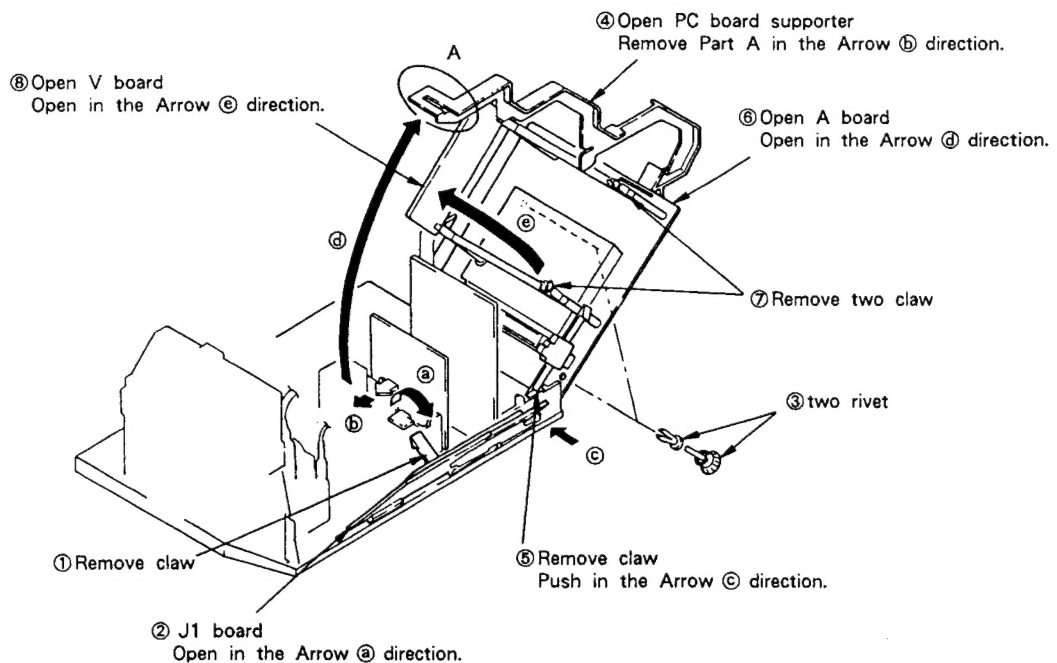
### 2-1. REAR COVER REMOVAL



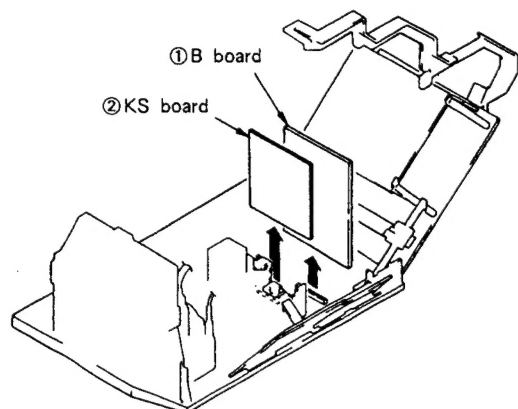
### 2-2. CHASSIS ASSY REMOVAL



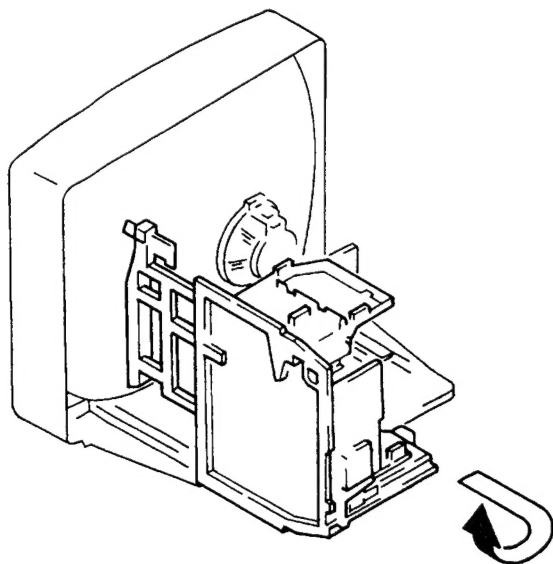
### 2-3. J1, A AND V BOARDS REMOVAL



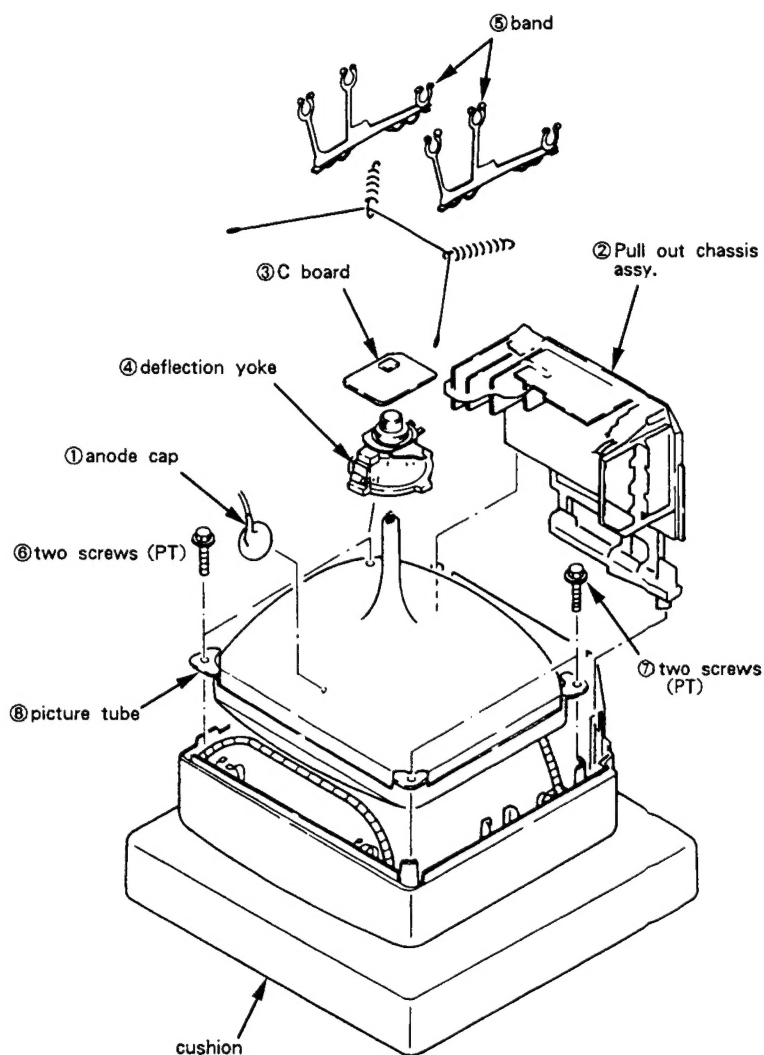
## 2-4. KS AND B BOARDS REMOVAL



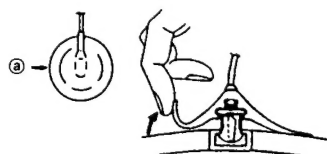
## 2-5. SERVICE POSITION



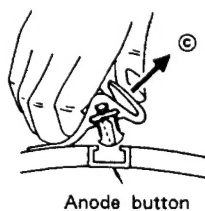
## 2-6. PICTURE TUBE REMOVAL



### • Removing Procedures

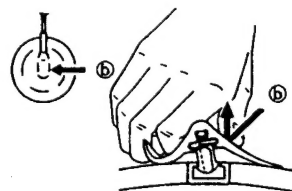


- ① Turn up one side of the rubber cap in the direction indicated by the arrow ①.



Anode button

- ② Using a thumb, pull up the rubber cap firmly in the direction indicated by the arrow ②.



- ③ When one side of the rubber cap is separated from the anode button, the anode cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ③.

## SECTION 3

### SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

The control and switch below should be set as follows unless otherwise noted :

● CONTRAST control ..... 80% (or Normal by Commander)

☼ BRIGHTNESS control ..... 50%

Perform the adjustments in order as follows :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

**Note :** Test Equipment Required.

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

#### Precaution

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser.

#### 3-1. BEAM LANDING

1. Input a raster signal with the pattern generator.  
CONTRAST ..... normal  
BRIGHTNESS ..... normal
2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides, evenly.  
(Fig. 3-1 to 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig. 3-1)
5. Switch over the raster signal to blue and green and confirm the condition.
6. When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.
7. When landing at the corners is not right, adjust by using the magnet. (Fig. 3-4)

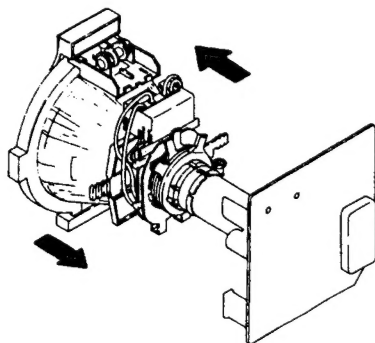


Fig. 3-1

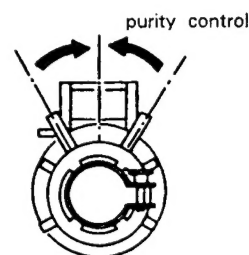


Fig. 3-2

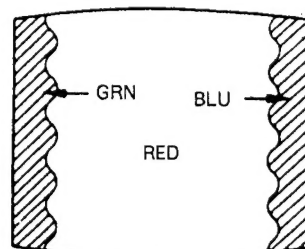


Fig. 3-3

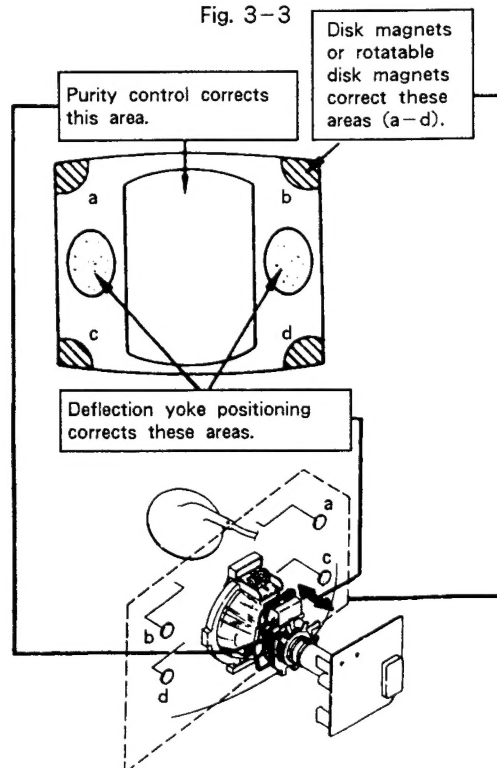


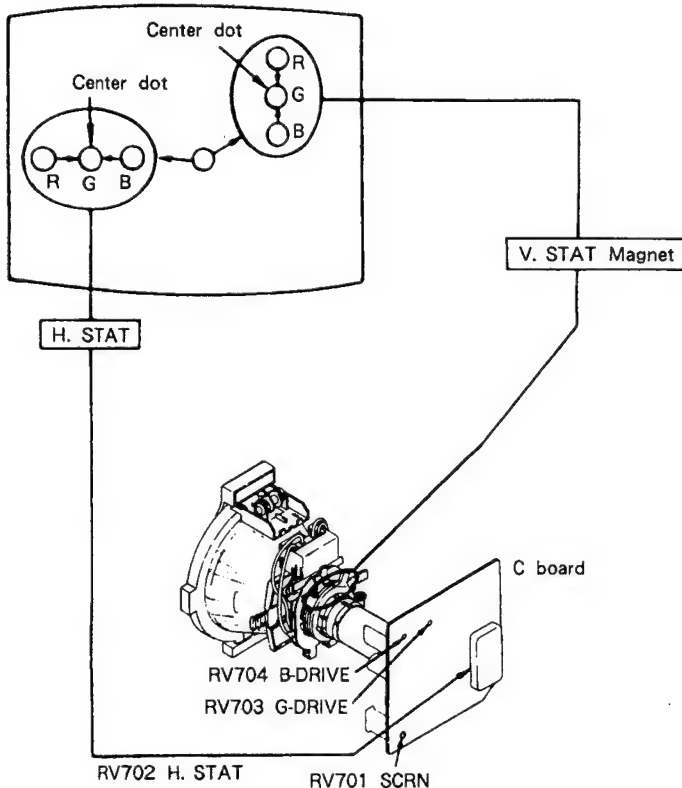
Fig. 3-4

### 3-2. CONVERGENCE

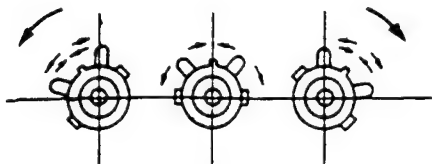
#### Preparation :

- Before starting, perform FOCUS, H. SIZE and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

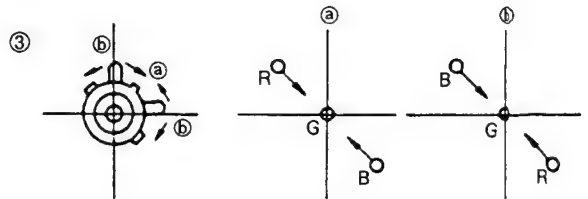
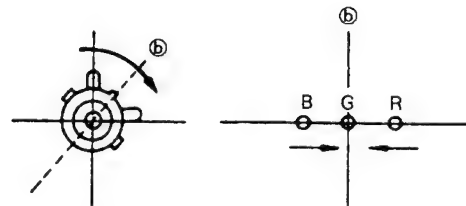
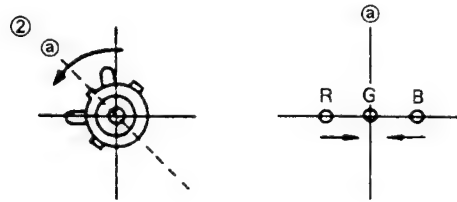
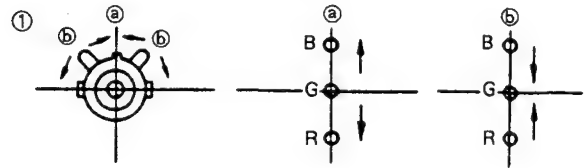
#### (1) Horizontal and Vertical Static Convergence



1. Adjust H. STAT VR to coincide red, green and blue dots on the center of screen. (Horizontal movement)
  2. Adjust V. STAT magnet to coincide red, green and blue dots on the center of screen. (Vertical movement)
  3. If the red, green and blue dots do not coincide on the center of screen with H. STAT VR, perform horizontal convergence adjustment using H. STAT VR and V. STAT magnet as shown below. (In this case, H. STAT VR and V. STAT magnet effect each other.)
- Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



4. When the V. STAT magnet is moved in the direction of arrow (a) and (b), red, green and blue dots move as shown below.

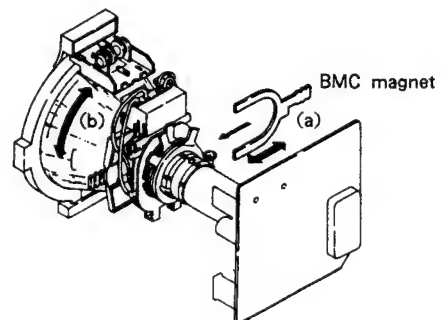


If the red and blue dots do not coincide with green dot, perform following steps.

Move BMC magnet (a) to correct insufficient H. static convergence.

Rotate BMC magnet (b) to correct insufficient V. static convergence.

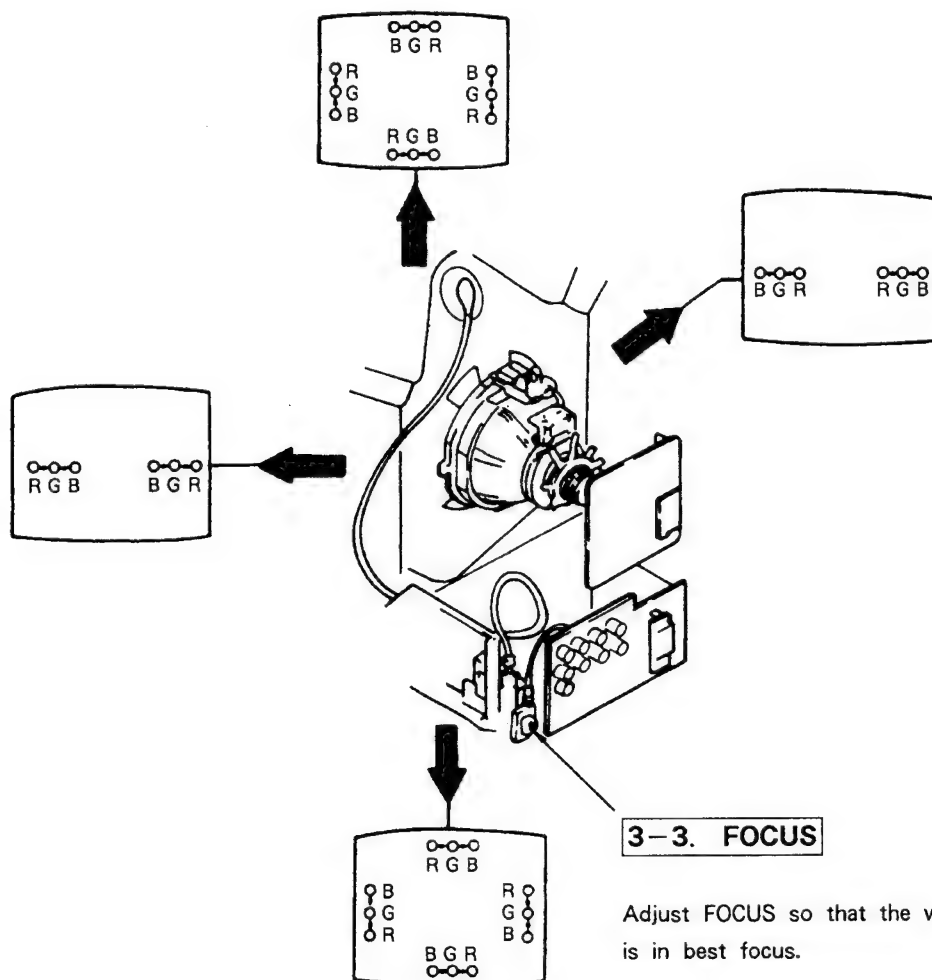
In either case, repeat Beam Landing Adjustment.



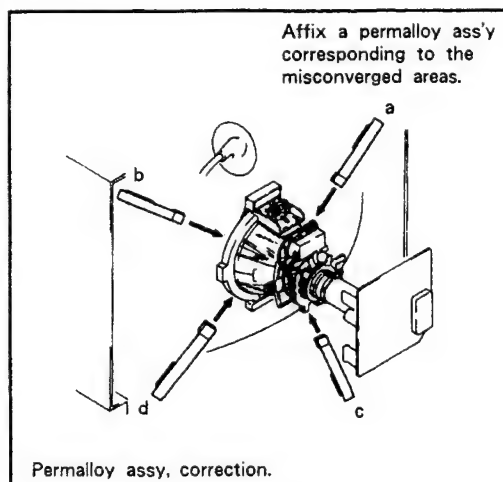
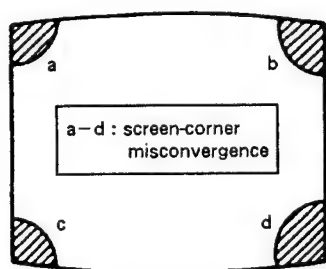
## (2) Dynamic Convergence Adjustment

### Preparation :

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.
1. Slightly loosen deflection yoke screw.
  2. Remove deflection yoke spacers.
  3. Move the deflection yoke for best convergence as shown below.
  4. Tighten the deflection yoke screw.
  5. Install the deflection yoke spacers.



## (3) Screen-corner Convergence





### **3-4. WHITE BALANCE**

#### **[Screen (G2) Setting]**

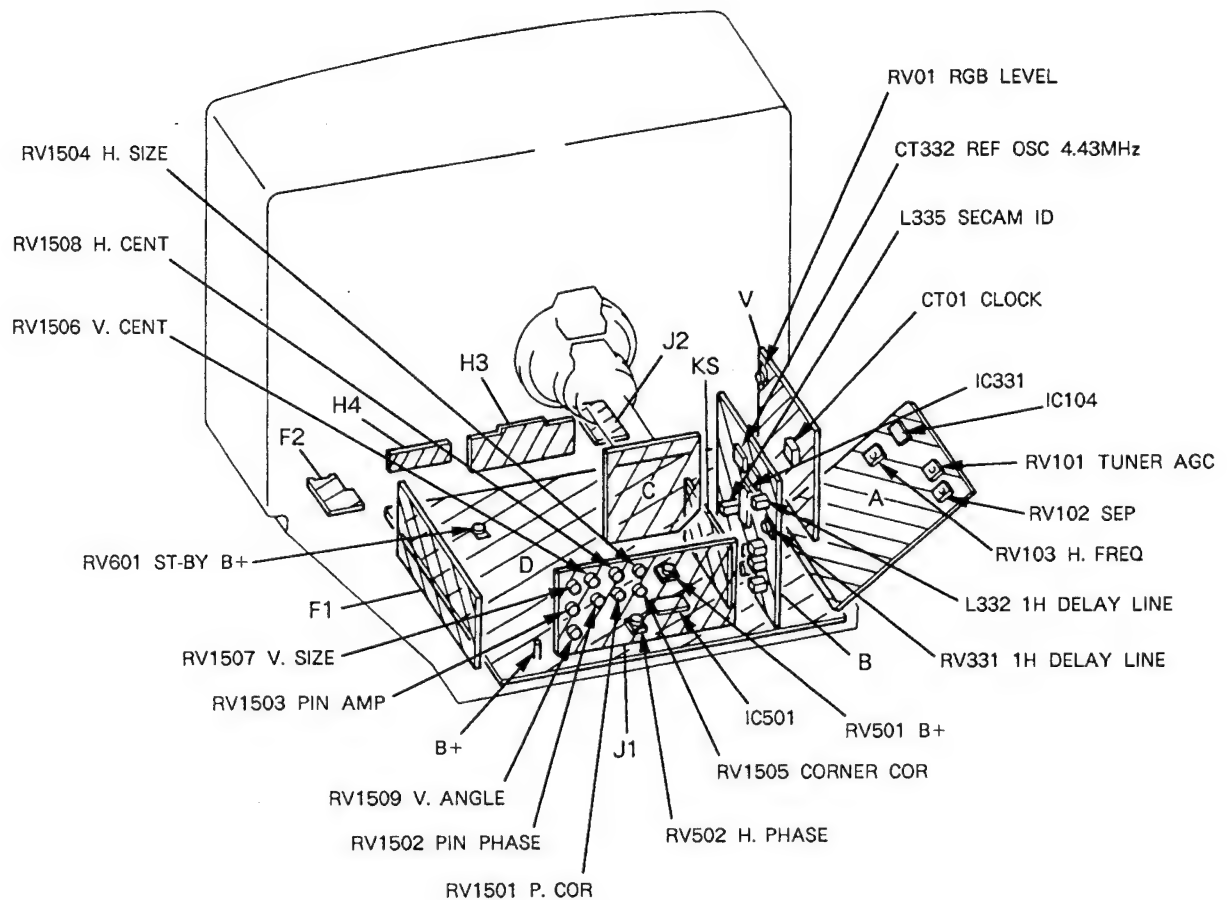
1. Input dot signals from the pattern generator.
2. Set the picture BRIGHTNESS control to the minimum level.
3. Apply 170 V dc to the cathodes of R, G, and B from an external power source.
4. While watching the picture, adjust the G2 volume (RV701) immediately before the fly-back line disappears.

#### **[White Balance Adjustment]**

1. Input all-white signals from the pattern generator.
2. Adjust the BRIGHTNESS and COLOR controls to the standard level.
3. Adjust the white balance using RV704 (B DRIVE) and RV703 (G DRIVE).

In the following adjustments, the CONTRAST COLOR and BRIGHTNESS controls are set to normal unless otherwise specified.

## SECTION 4 CIRCUIT ADJUSTMENTS



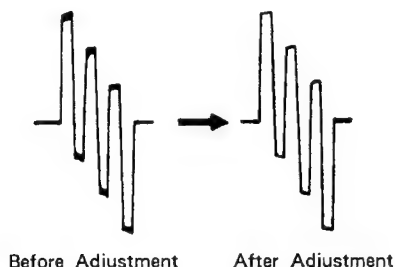
### 4-1. B BOARD ADJUSTMENTS

#### REF OSC Adjustment (CT332)

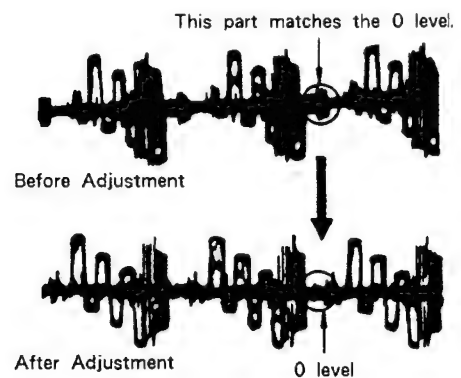
1. Input a PAL COLOR BAR pattern.
2. Short circuit between pin ⑩ of IC331 and ground.
3. Adjust CT332 to obtain color synchronization.
4. Remove the jumper wire from IC331.

#### 1H DELAY LINE Adjustment (L332, RV331)

1. Input a PAL COLOR BAR pattern.
2. Connect the oscilloscope to pin ③ (B-Y) of IC331 and observe the waveform of the H block on the oscilloscope.
3. Adjust L332 to minimize the double waveform outline.



4. Input a PAL TEST COLOR BAR pattern.
5. Rotate the RV331 VR and adjust till the ANTI-PAL part of the waveform matches the 0 level.



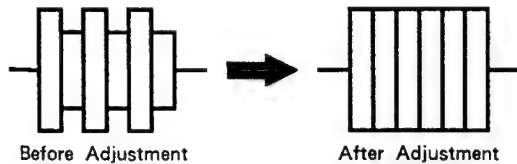
6. L332 and RV331 affect each other. So repeat till the conditions of both are met.

#### SECAM ID Adjustment (L335)

1. Input a SECAM COLOR BAR pattern.
2. Connect a Digital Multimeter to pin ⑩ of IC331.
3. Adjust L335 so that the indicator goes up to the maximum.

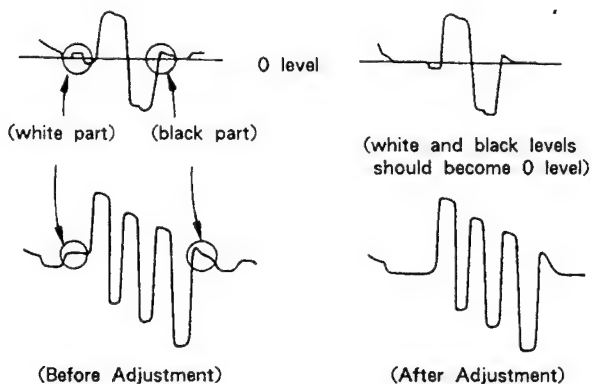
#### BELL FILTER Adjustment (T331)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to the Q335 emitter.
3. Adjust T331 so that the waveform becomes flat.



#### SECAM DISCRI Adjustment (L333, L334)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to pin ① of IC331.
3. Adjust L333 so that white and black parts of the waveform of pin ① becomes 0 level.
4. Connect an oscilloscope to pin ③ of IC331.
5. Adjust L334 so that white and black parts of the waveform of pin ③ becomes 0 level.



### 4-2. D BOARD ADJUSTMENTS

#### B+ Adjustment (RV501)

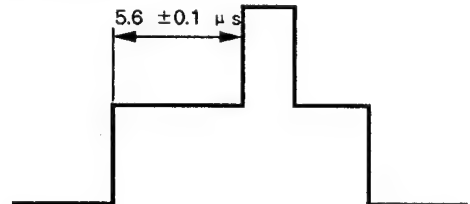
1. Connect a Digital Multimeter to TP91.
2. Adjust RV501 so that the voltage becomes  $135 \pm 0.2$  V.

#### ST-BY B+ Adjustment (RV601)

1. Set up  $\text{⏻}$  standby (Remote Commander) mode.
2. Connect the Digital Multimeter to TP91.
3. Adjust RV601 so that the voltage becomes  $135 \pm 3$  V.
4. Release the  $\text{⏻}$  standby (Remote Commander) mode.

#### H. PHASE Adjustment (RV502)

1. Input a PAL TEST COLOR BAR pattern.
2. Set the CONTRAST and BRIGHTNESS controls to the standard positions.
3. Set RV1508 (H. CENT) to the mechanical center position.
4. Connect an oscilloscope to pin ⑩ (SPC OUT) of IC501.
5. Rotate RV502 and adjust Block T to  $5.6 \pm 0.1$   $\mu$ s.



### 4-3. A BOARD ADJUSTMENTS

#### TUNER AGC Adjustment (RV101)

1. Tune in an off-air signal.
2. Adjust RV101 so that snow-noise and cross-modulation just disappear from the picture.

#### STEREO SEPARATION Adjustment (RV102)

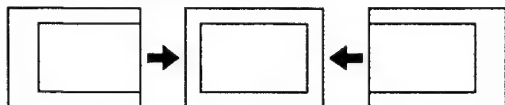
1. Input stereo signals. (L-CH 1 kHz, R-CH 400 Hz)
2. Check the stereo indicator.
3. Connect an oscilloscope to pin ① (L) of CNA11 through band pass filter of 1 kHz.
4. Adjust RV102 so that 1 kHz voltage goes down to the minimum.

#### H. FREQ Adjustment (RV103)

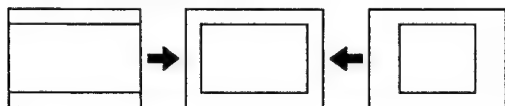
1. Input a PAL COLOR BAR pattern.
2. Short circuit between pin ⑫ of IC104 and ground.
3. Connect a frequency counter to pin ⑥ of IC104 through a probe of 10:1.
4. Adjust RV103 so that H. frequency becomes  $15,625 \pm 50$  Hz.

#### 4-4. J1 BOARD ADJUSTMENTS

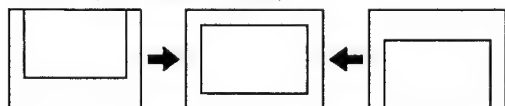
RV1508  
H. CENT (HORIZONTAL CENTER)



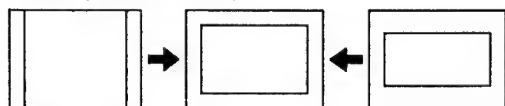
RV1504  
H. SIZE (HORIZONTAL SIZE)



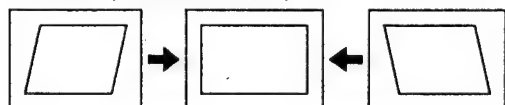
RV1506  
V. CENT (VERTICAL CENTER)



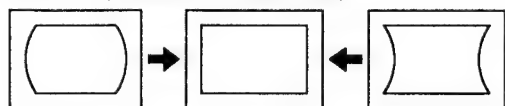
RV1507  
V. SIZE (VERTICAL SIZE)



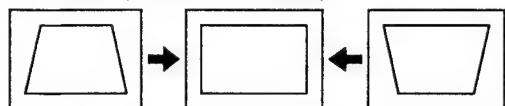
RV1509  
V. ANGLE (VERTICAL ANGLE)



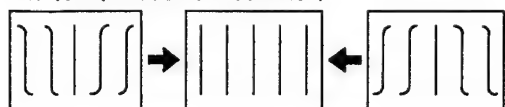
RV1503  
PIN AMP (PINCUSHION AMPLIFIER)



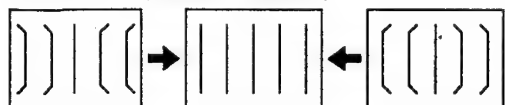
RV1502  
PIN PHASE (PINCUSHION PHASE)



RV1501  
PIN COR (PINCUSHION CORRECT)



RV1505  
CORNER COR (CORNER CORRECT)



#### 4-5. V BOARD ADJUSTMENTS

##### Clock Adjustment (CT01)

1. Disconnect the V-1 connector.
2. Set up the TELE TEXT mode.
3. Adjust CT01 to stop pictures from scrolling.

##### RGB Level Adjustment (RV01)

1. Set PICTURE to maximum.
2. Adjust RV01 till the RGB output becomes 0.75 V.

#### 4-6. SUB ADJUSTMENTS

##### SUB BRIGHTNESS Adjustment

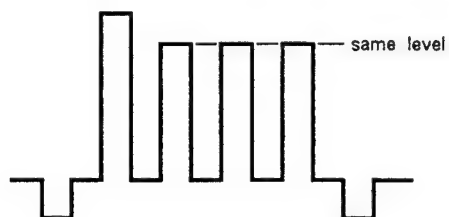
1. Receive and display a TEST COLOR BAR pattern.
2. Push →•← on the remote commander to invoke the normal state.
3. Turn off the power supply.
4. Turn on the power supply while pushing the SUB button (S1414). (SUB mode is invoked.)
5. Reduce the CONTRAST to the minimum level.
6. Adjust the BRIGHTNESS control until the 0 IRE of the gray scale becomes completely cut off, and the 20 IRE becomes barely luminous.
7. Push the AFT button. (SUB mode is cleared)

Where no TEST COLOR BAR pattern is available.

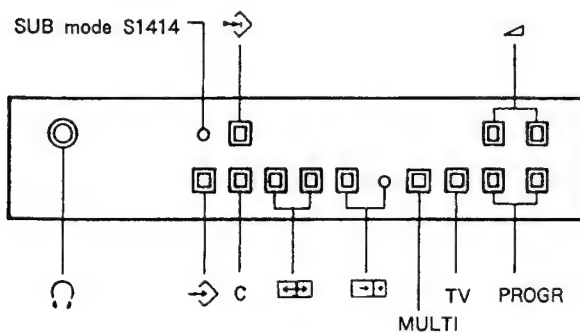
1. Display a COLOR BAR pattern.
  2. Push →•← on the remote commander to invoke the normal state.  
Set the COLOR to normal mode.
- Steps 3 - 5 are the same as above.
6. 20 IRE is close to blue, so adjust the BRIGHTNESS control till blue is faintly luminous.
  7. Same as Step 7 above.
  8. Push →•← on the remote commander to invoke the normal state.
- \* When Step 4 is executed correctly, S (SUB mode) is displayed at the upper right of the display. As S is displayed only for 30 seconds, perform the adjustment within 30 seconds, or repeat from Step 4.

### SUB COLOR Adjustment

1. Display a COLOR BAR pattern.
2. Push →•← on the remote commander to invoke the normal state.
3. Turn off the power supply.
4. Turn on the power supply while pushing the SUB button (S1414). (SUB mode is invoked.)
5. Adjust the COLOR control until the B out (pin ② of CNC72 connector on C board) waveform becomes as shown below.
6. Push the AFT button. (SUB mode is cleared.)

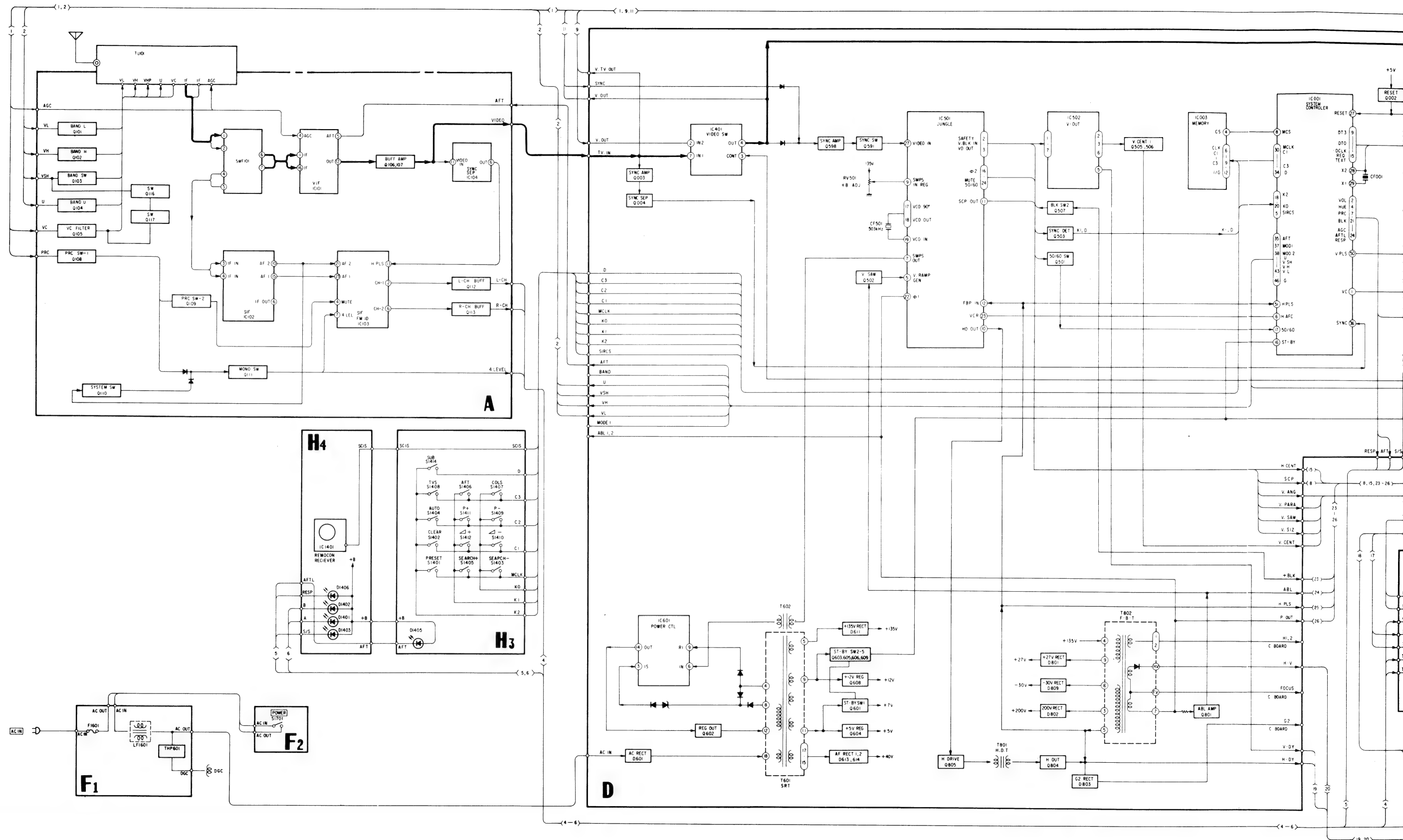


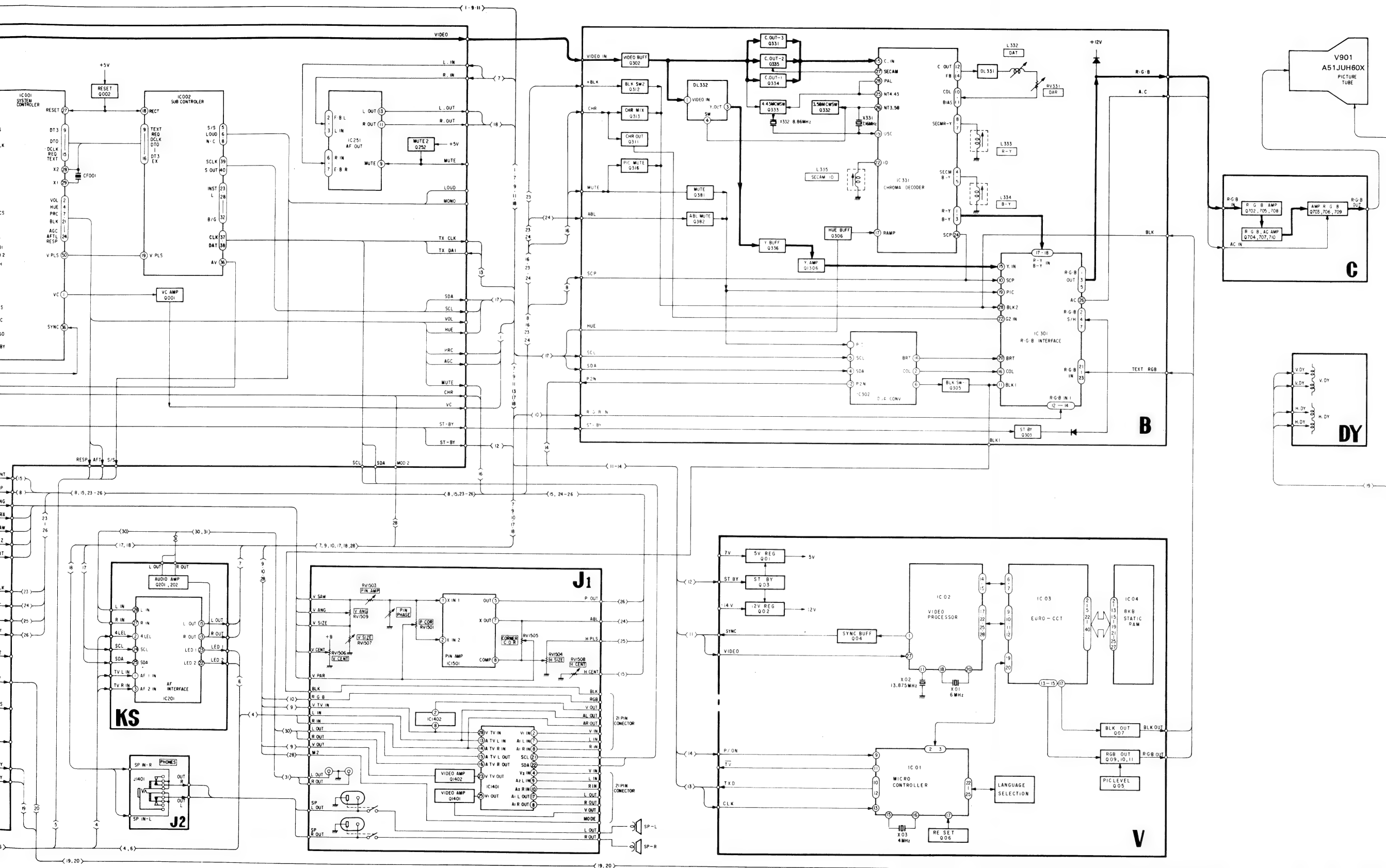
\* When Step 4 is executed correctly, S (SUB mode) is displayed at the upper right of the display. As S (SUB mode) is displayed only for 30 seconds, perform the adjustment with 30 seconds, or repeat from Step 4.



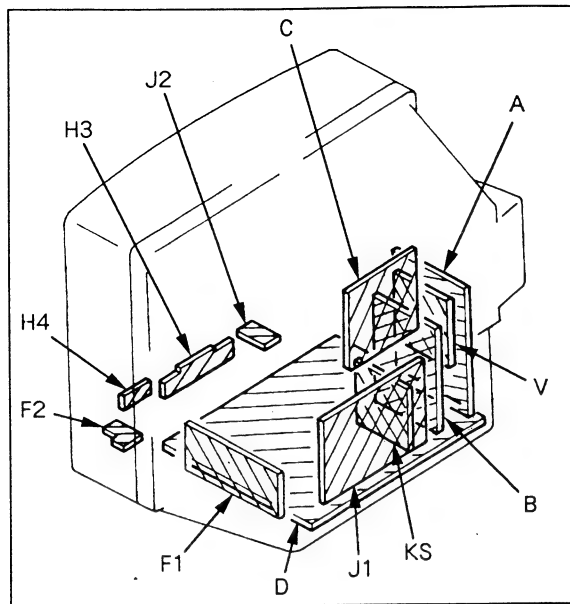
# SECTION 5 DIAGRAMS

## 5-1. BLOCK DIAGRAM





## 5-2. CIRCUIT BOARDS LOCATION



### Note :

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  
pF :  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm  
Rating electrical power 1/4W

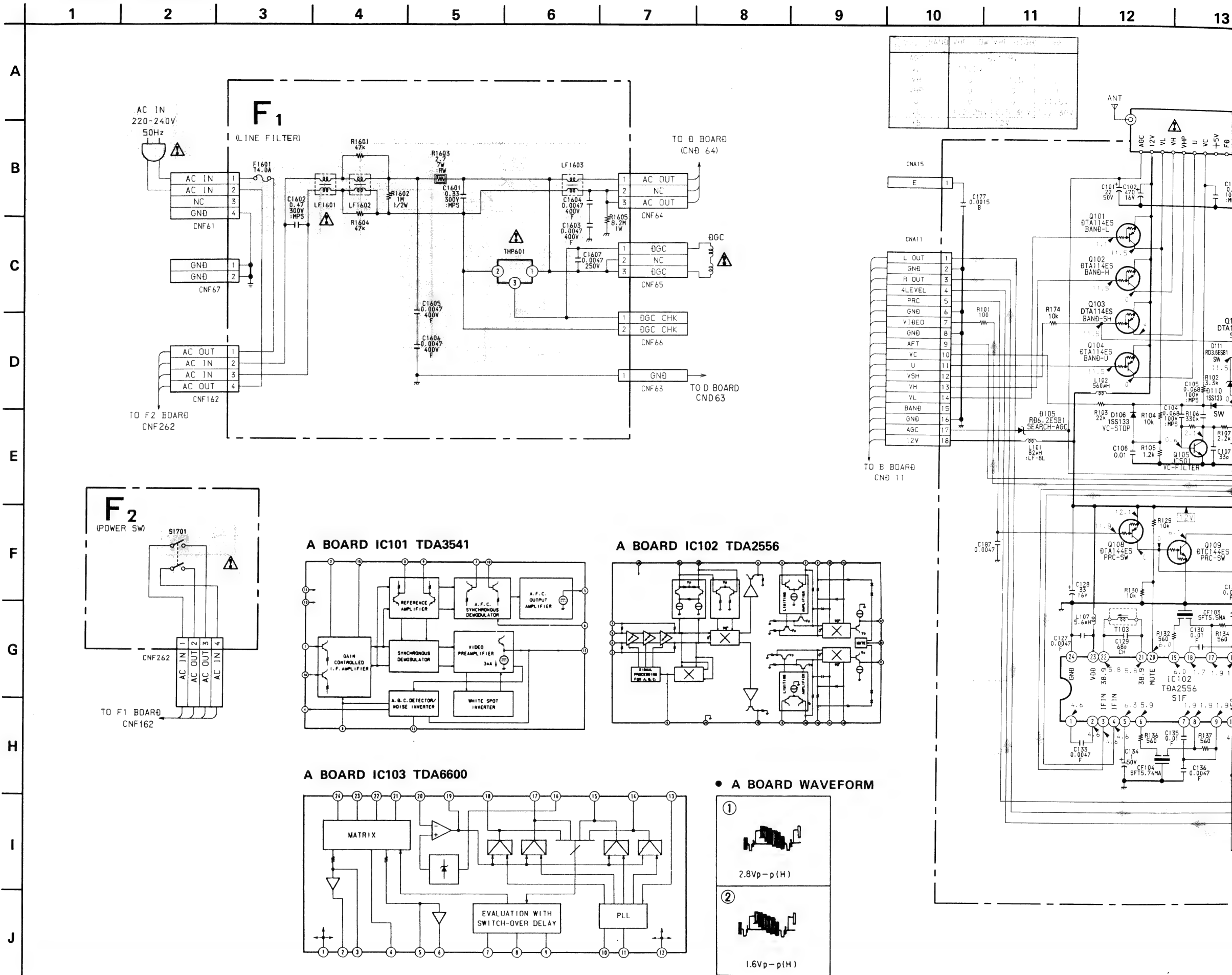
- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10 M $\Omega$  digital multimeter.
- Readings are taken with a PAL color-bar signal input.
- : adjustment for repair.
- Voltage variations may be noted due to normal production tolerance.
- : B+ bus.
- : B- bus.
- : signal path.

### Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

**Note:** The components identified by shading and mark are critical for safety. Replace only with part number specified.

## 5-3. SCHEMATIC DIAGRAMS





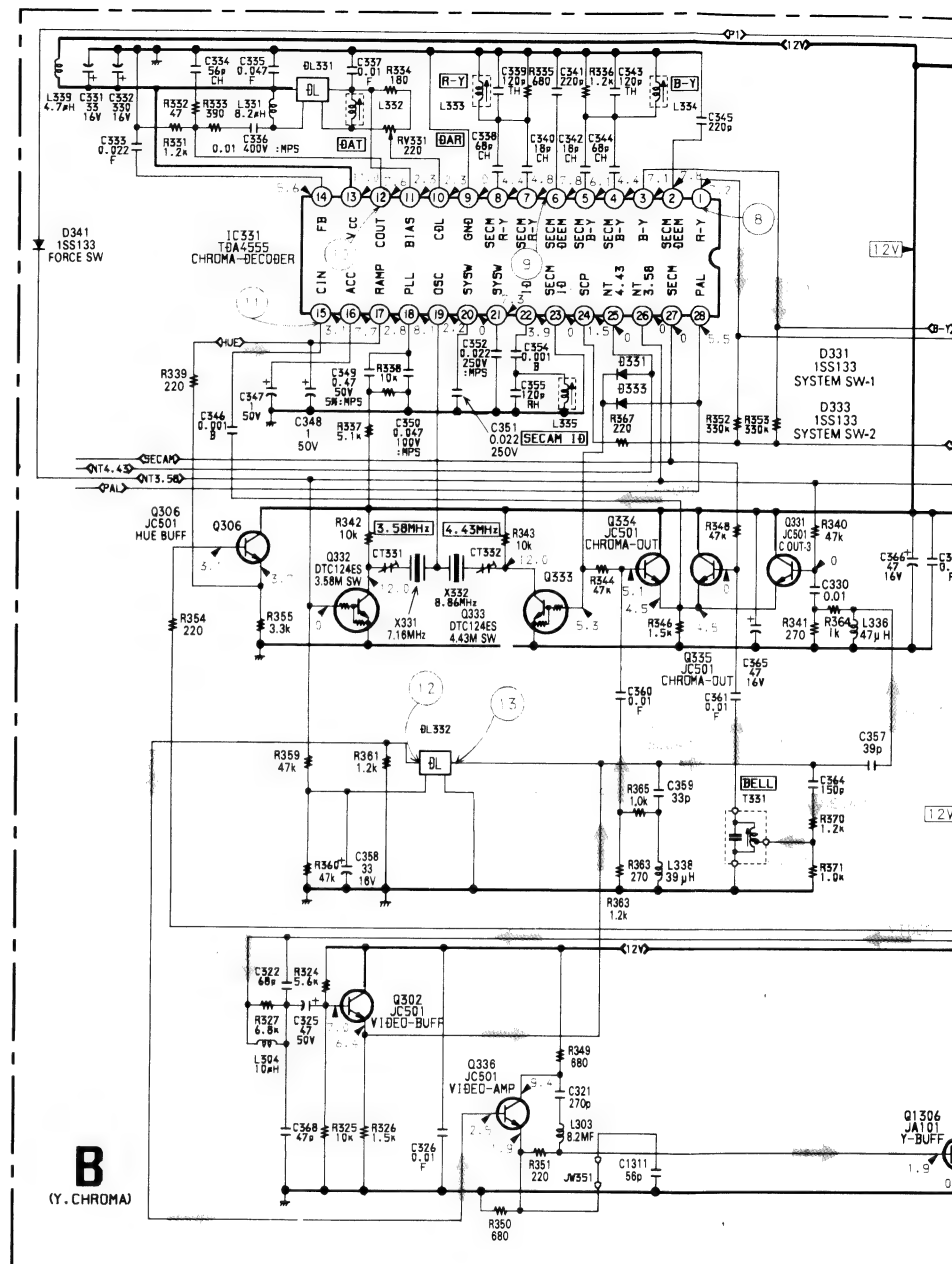
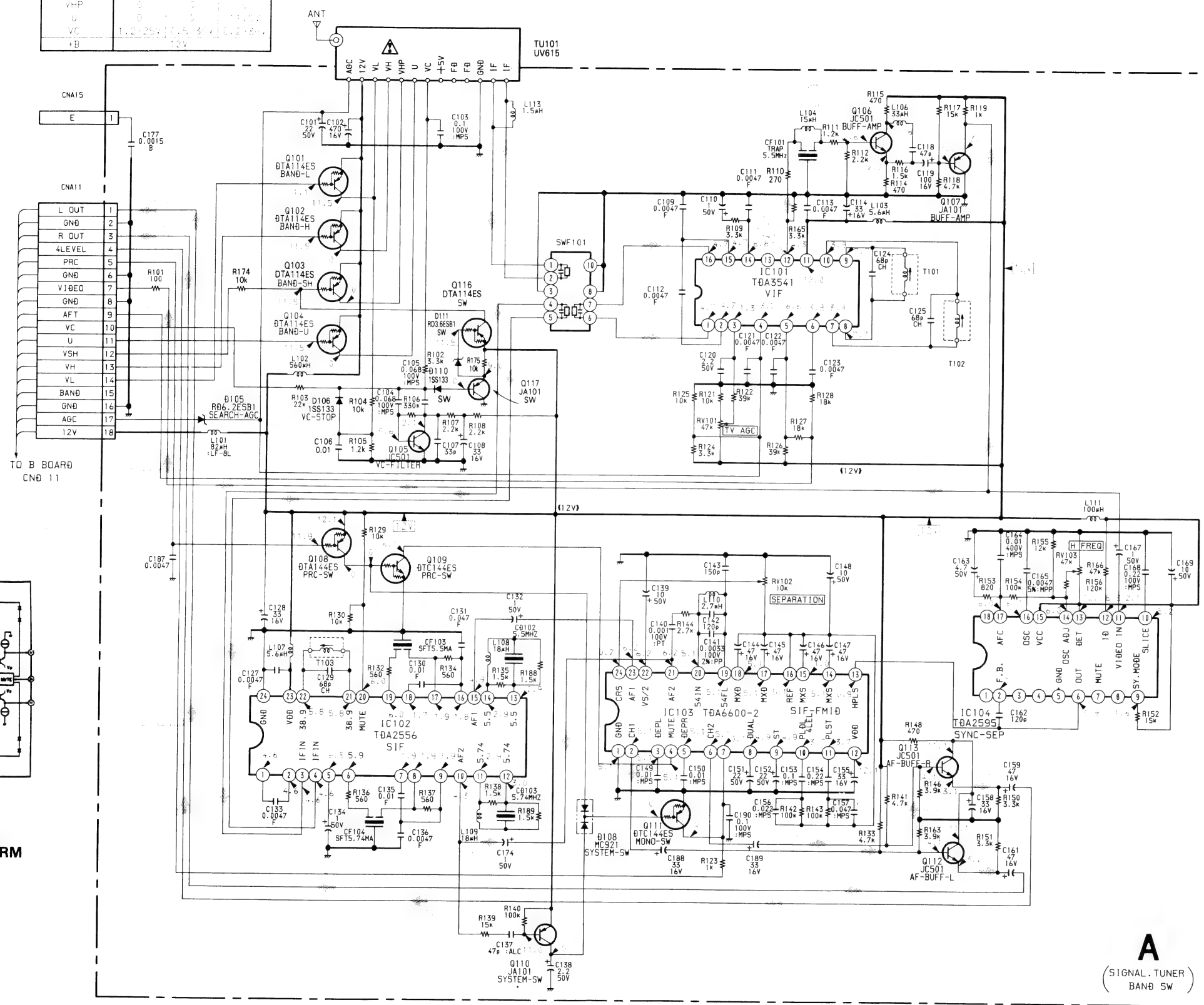
TU101	BAND	VHF	L5W	VHF	L5W	L5W	L5W
AGC							
VL							
VH							
VHP							
U							
VC							
+B							

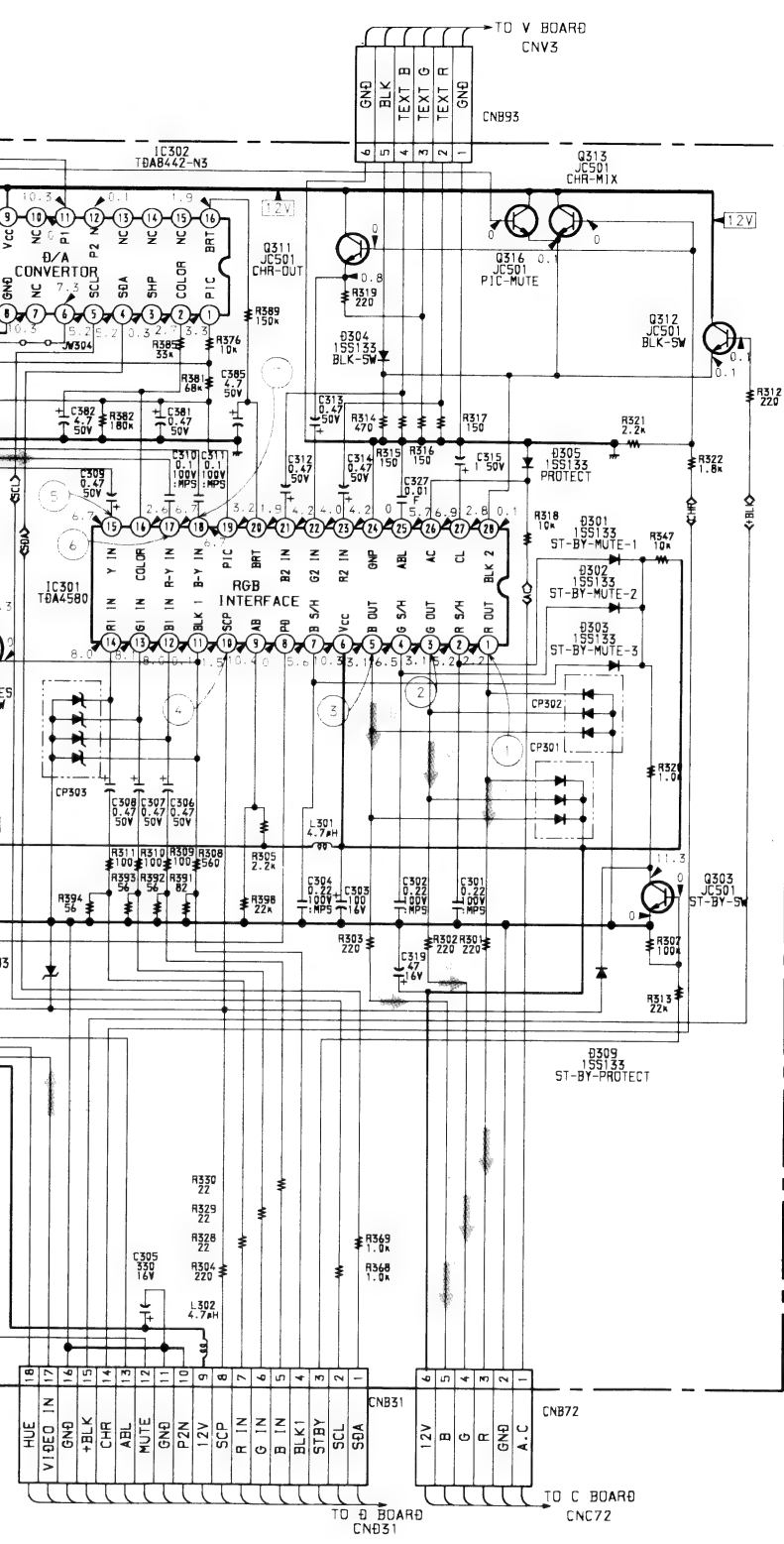
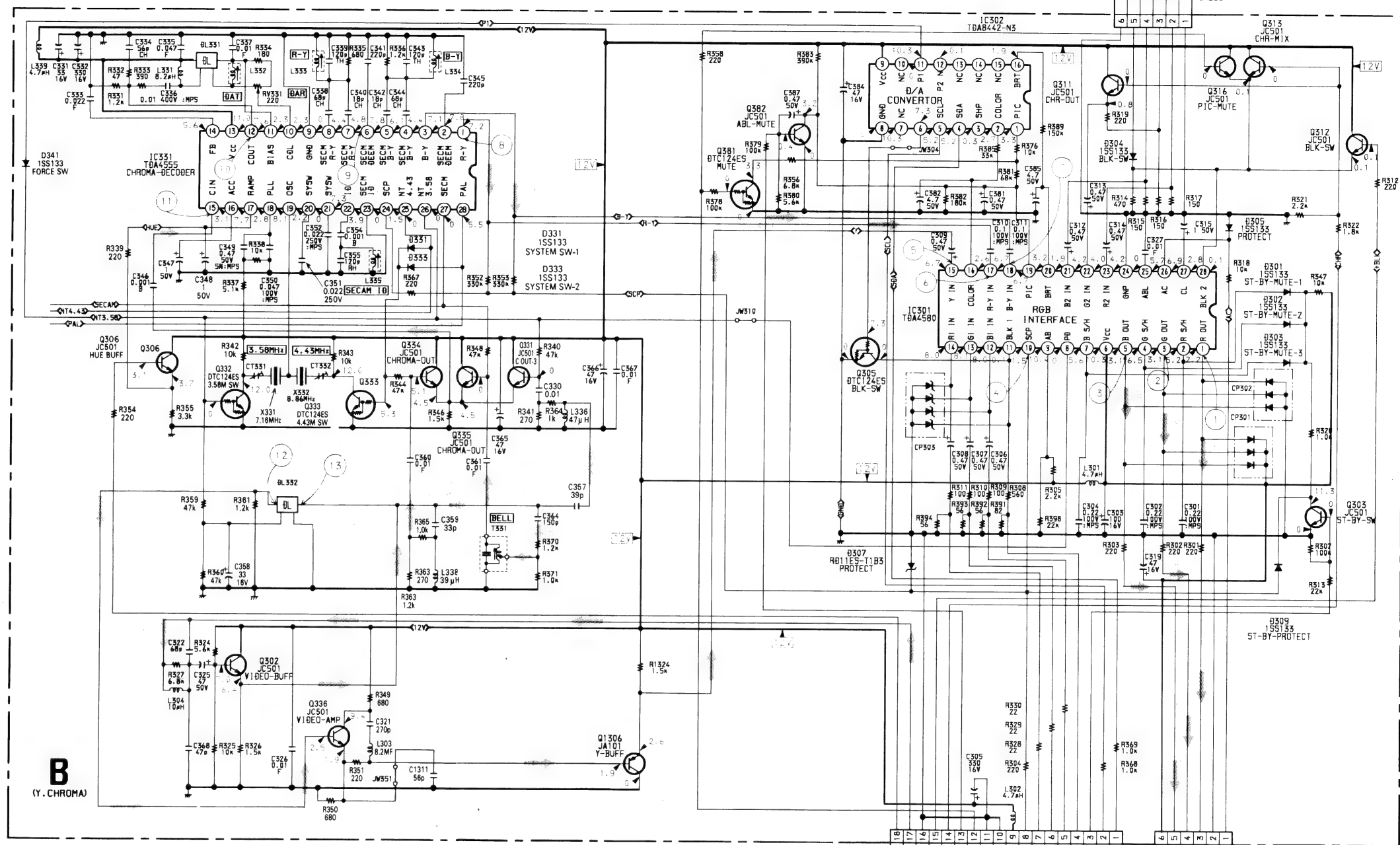
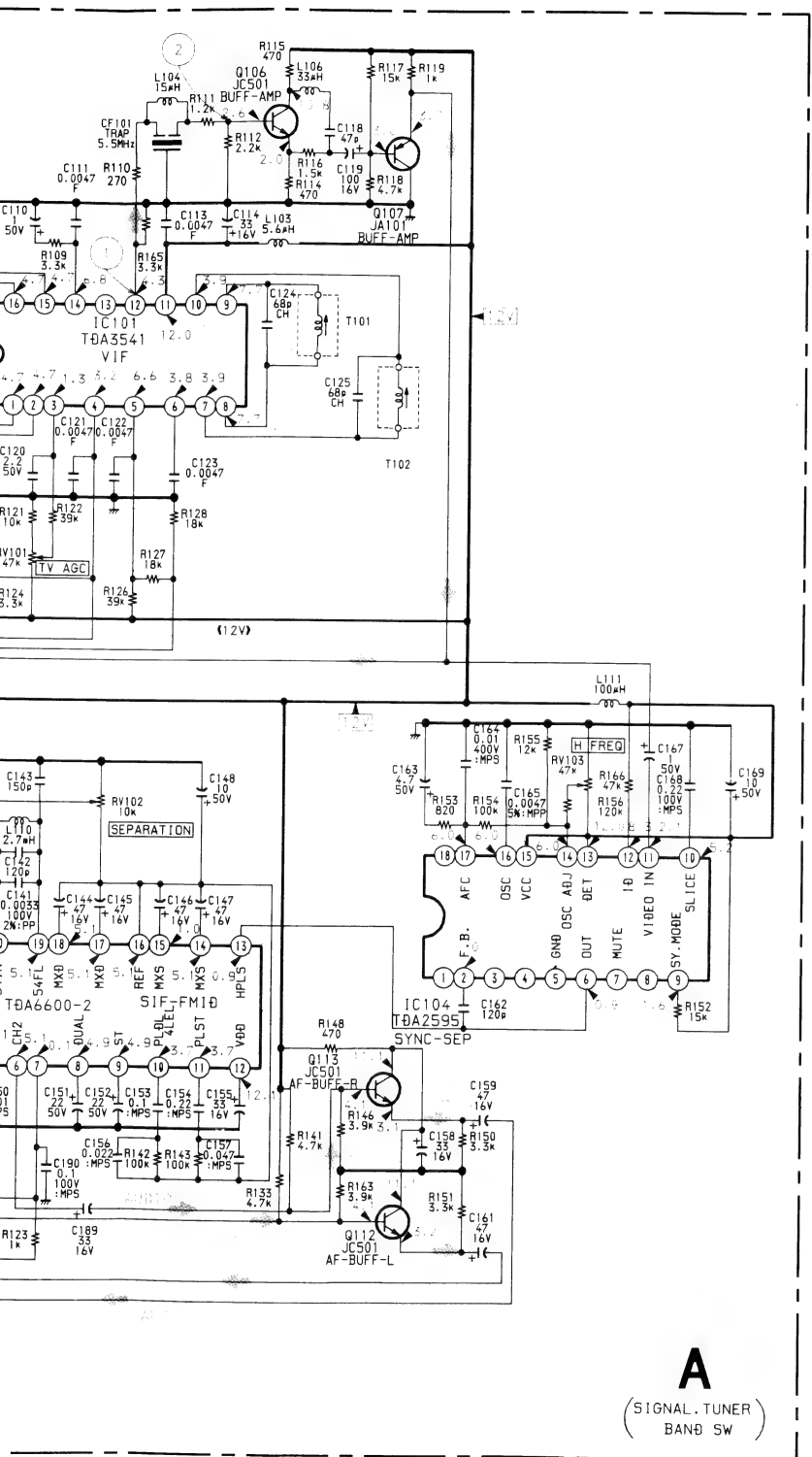
556

BOARD WAVEFORM

-p(H)

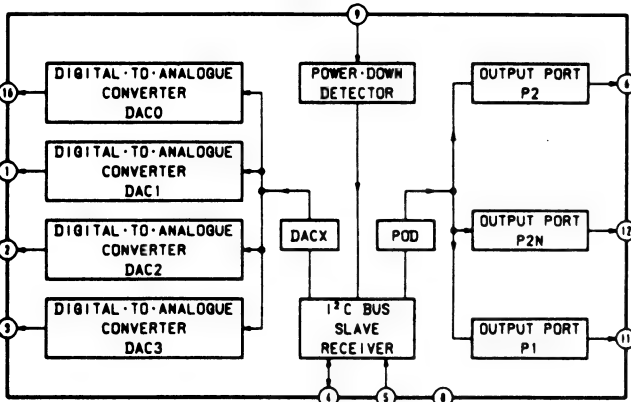
-p(H)



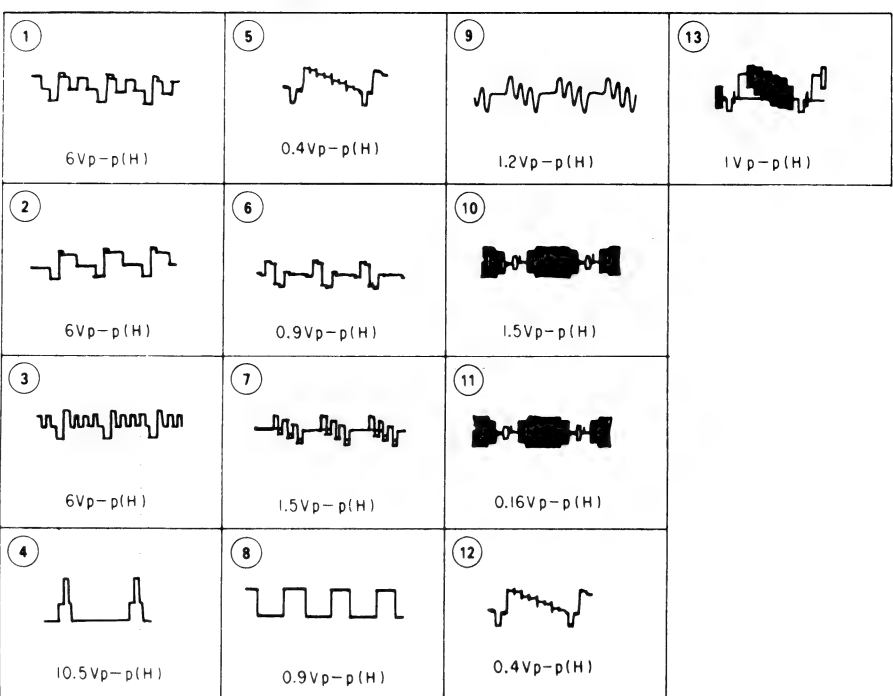


A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

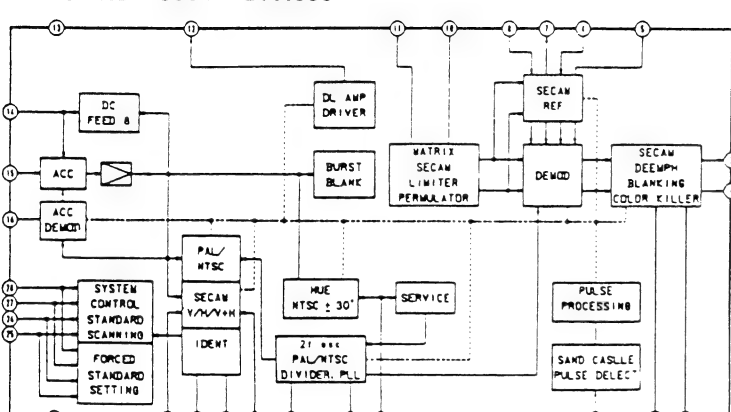
B BOARD IC302 TDA8442



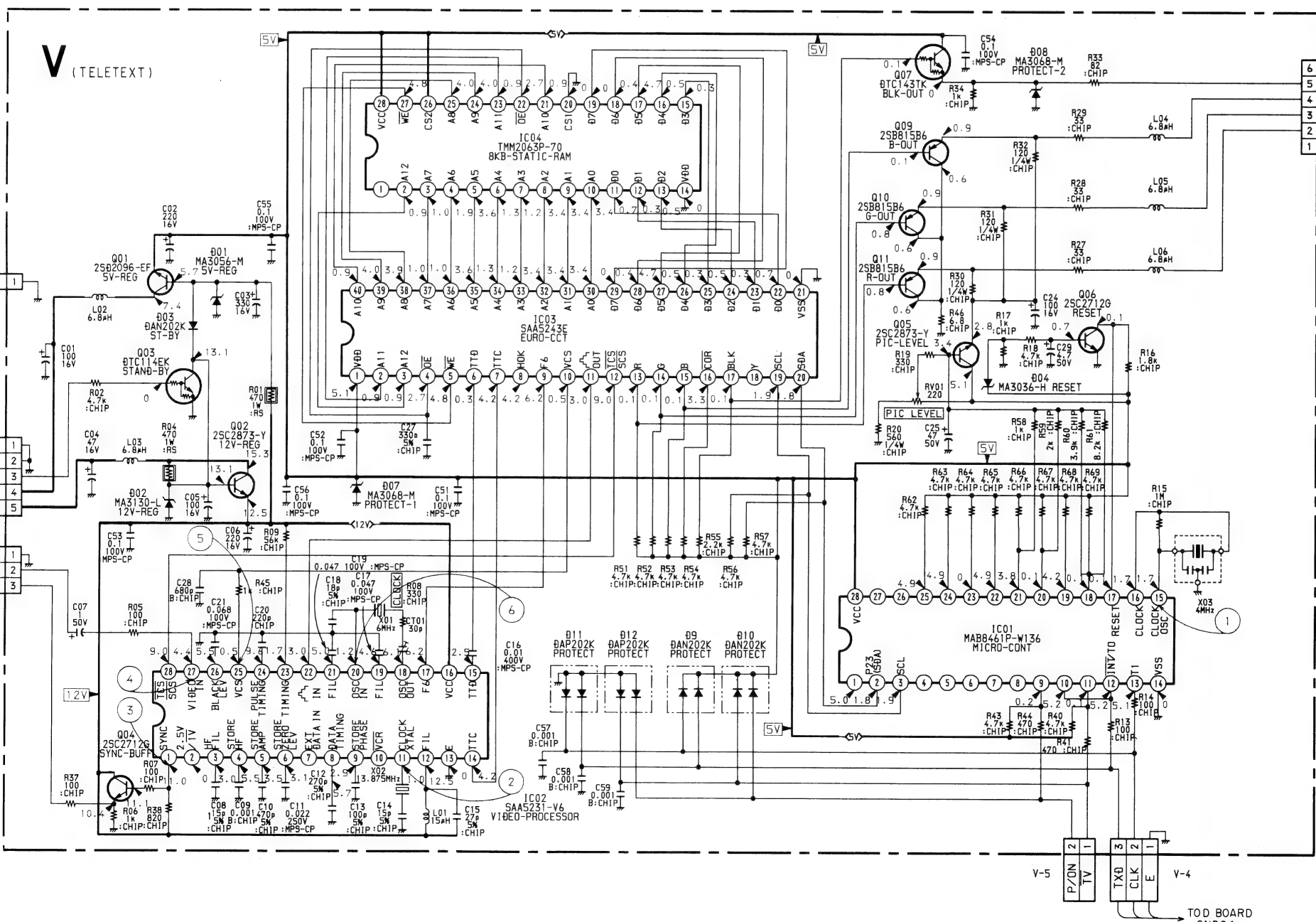
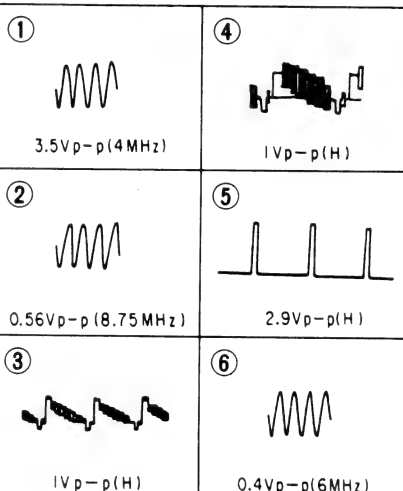
• B BOARD WAVEFORM



B BOARD IC331 TDA4555

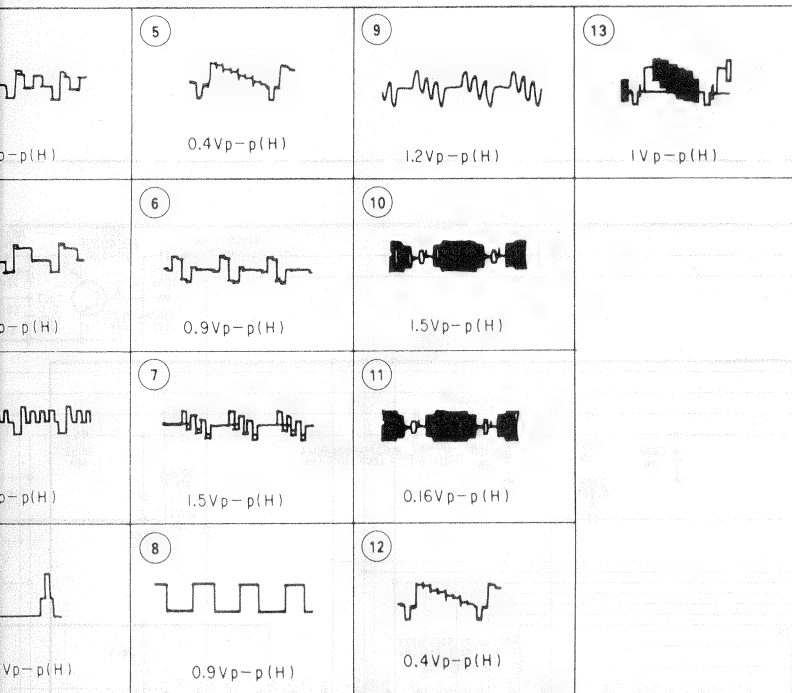


• V BOARD WAVEFORM

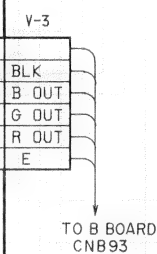
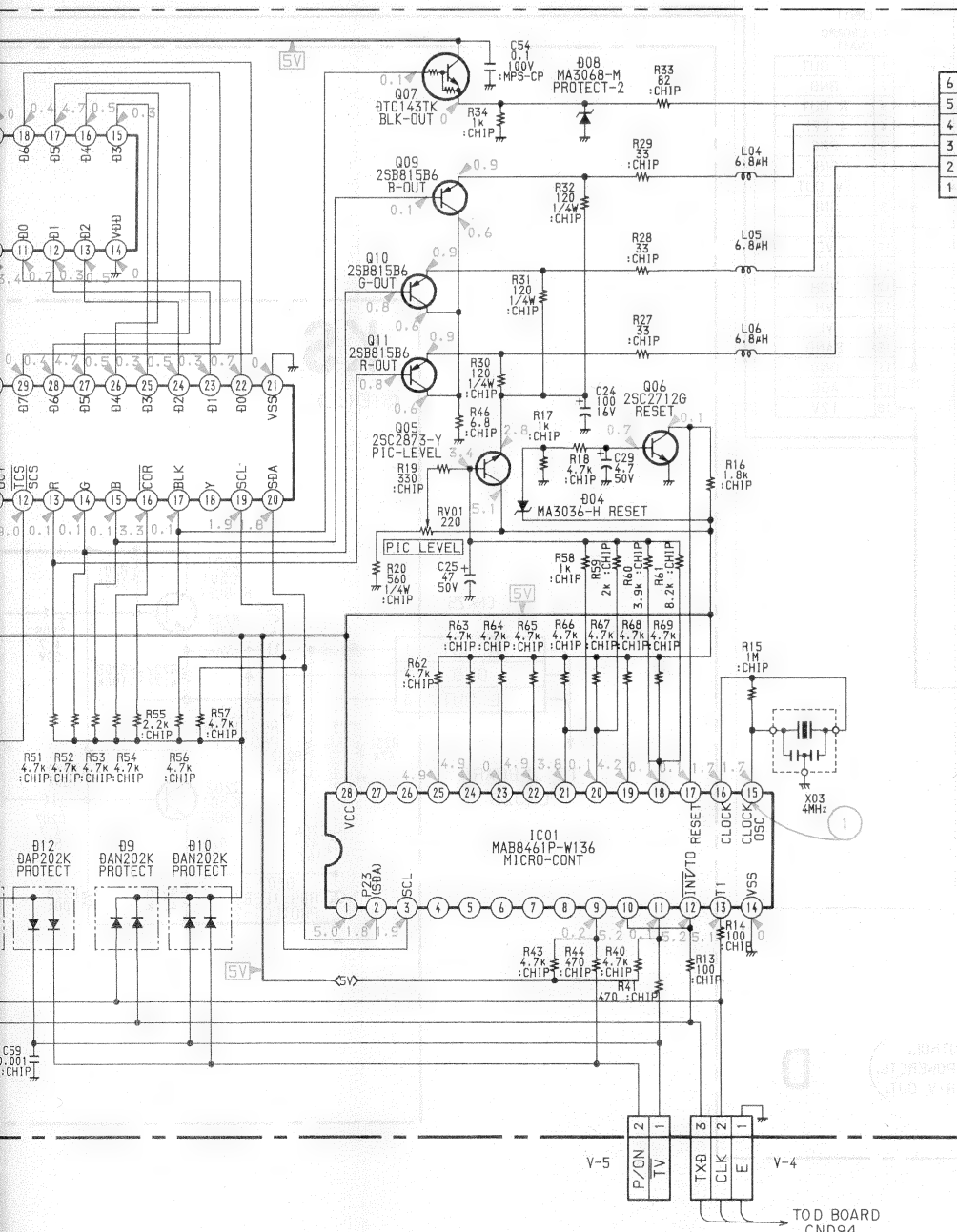
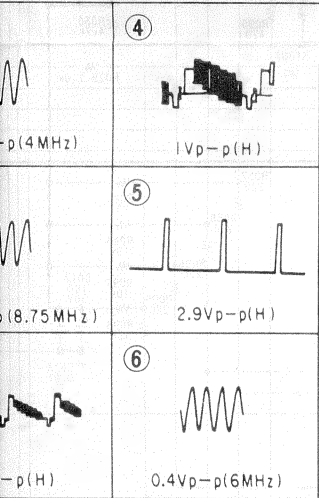




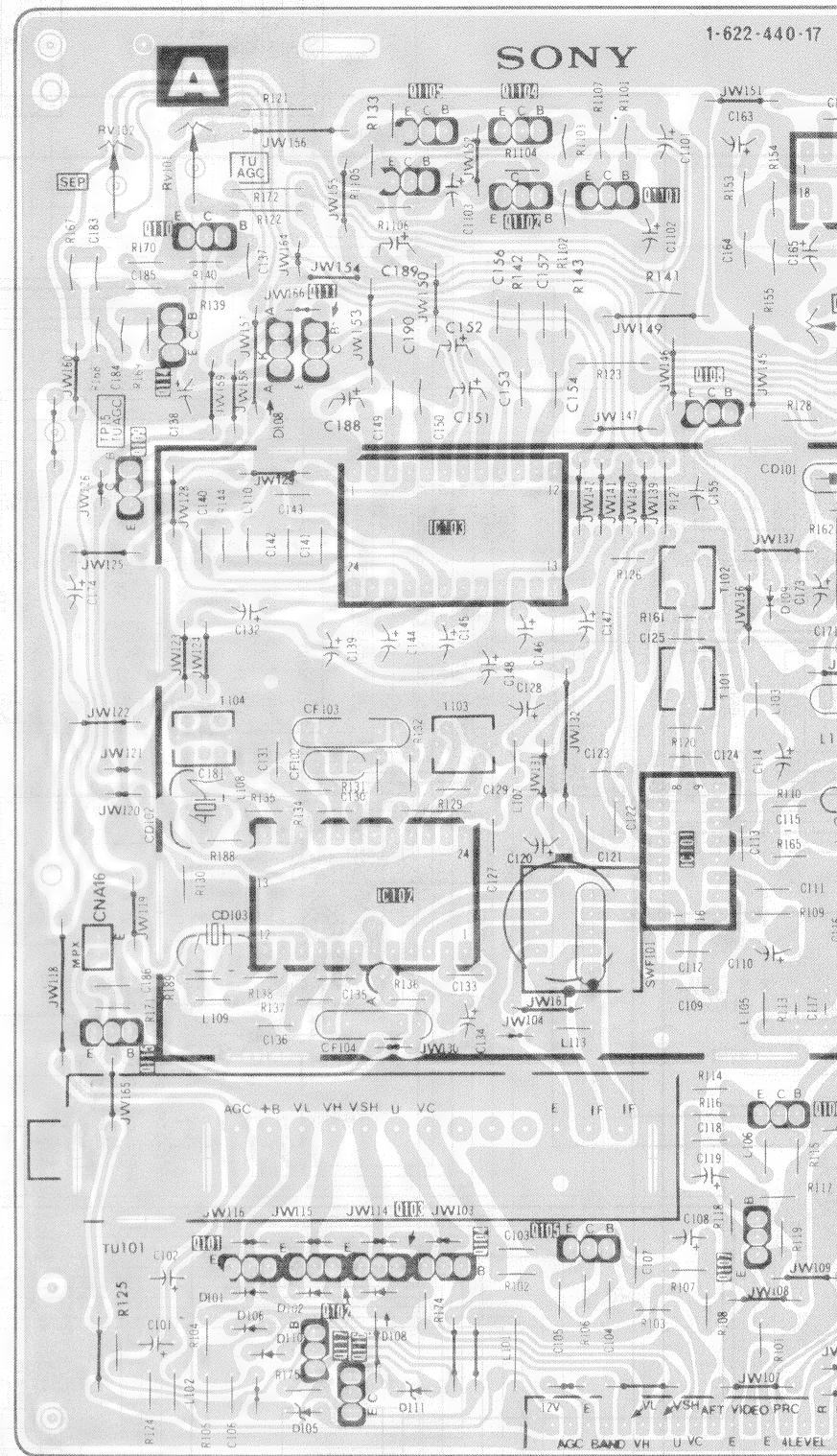
BOARD WAVEFORM



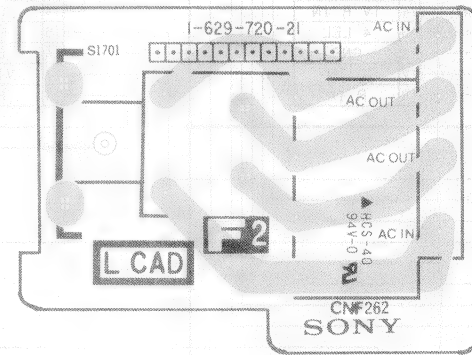
BOARD WAVEFORM



- A Board -



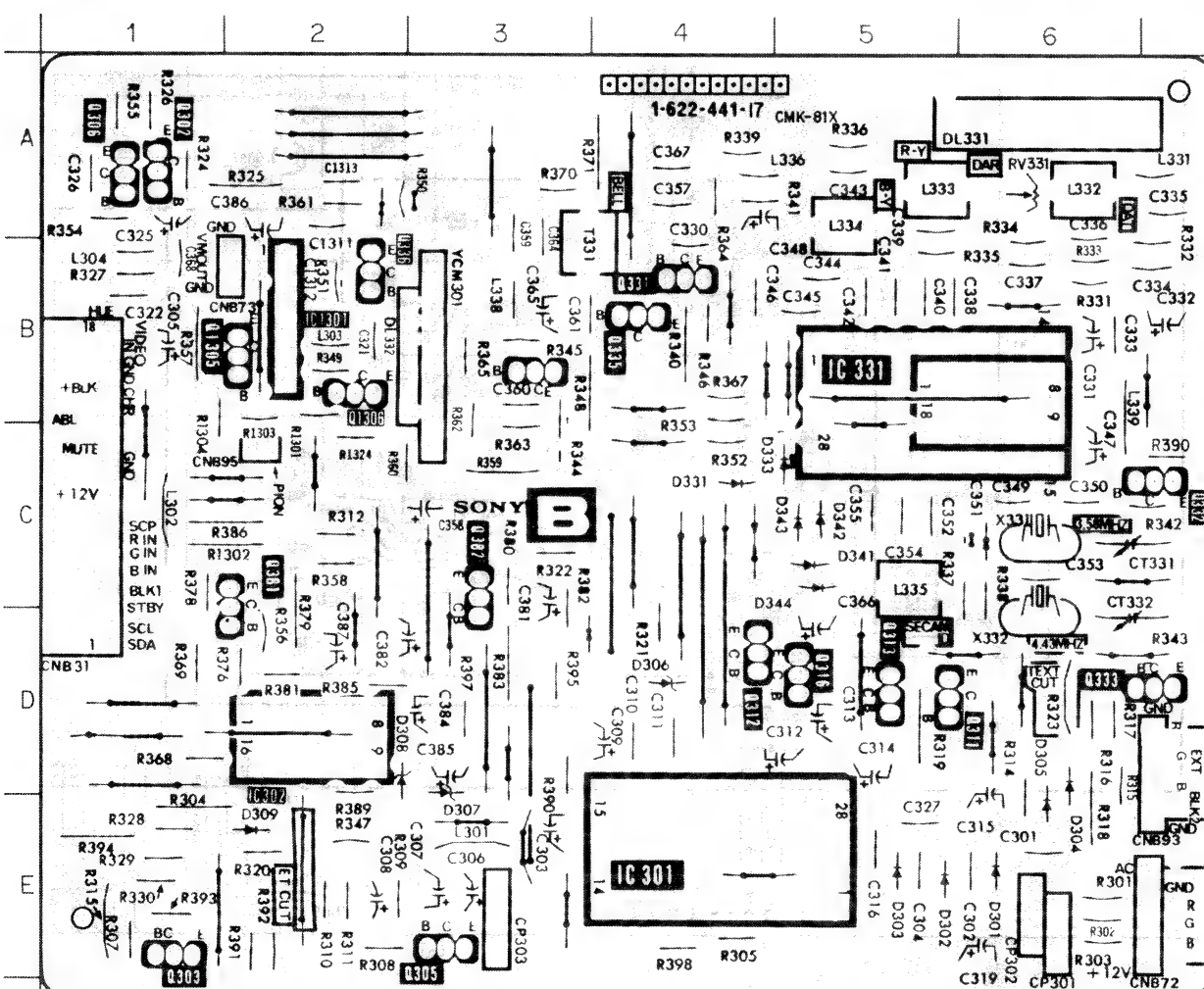
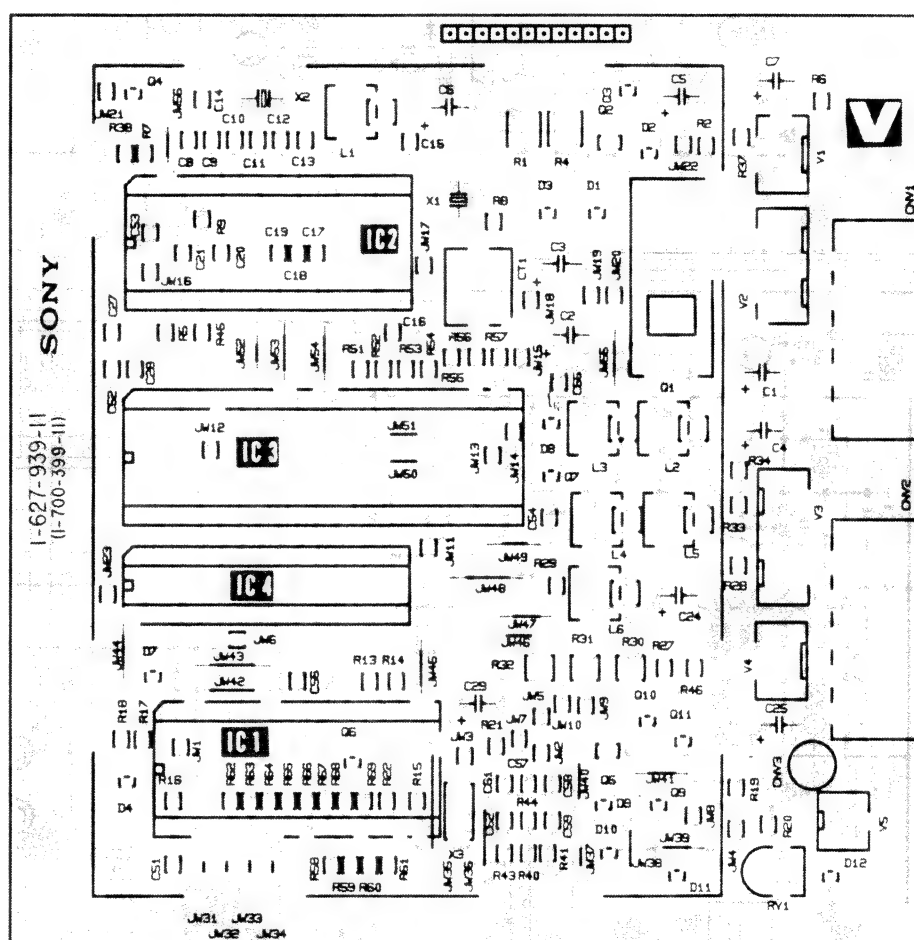
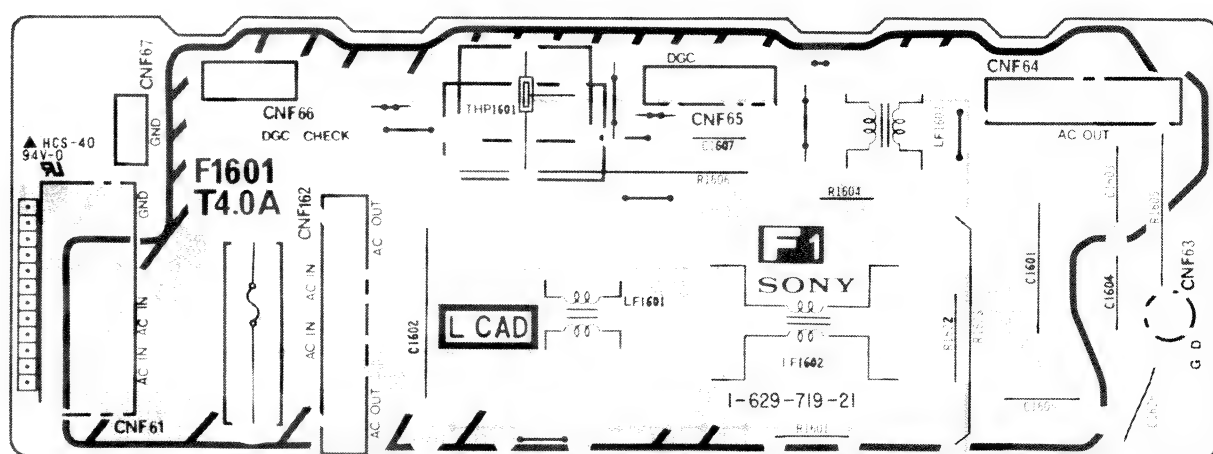
- F2 Board -





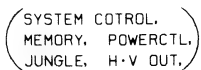
**V** [TELETEXT]





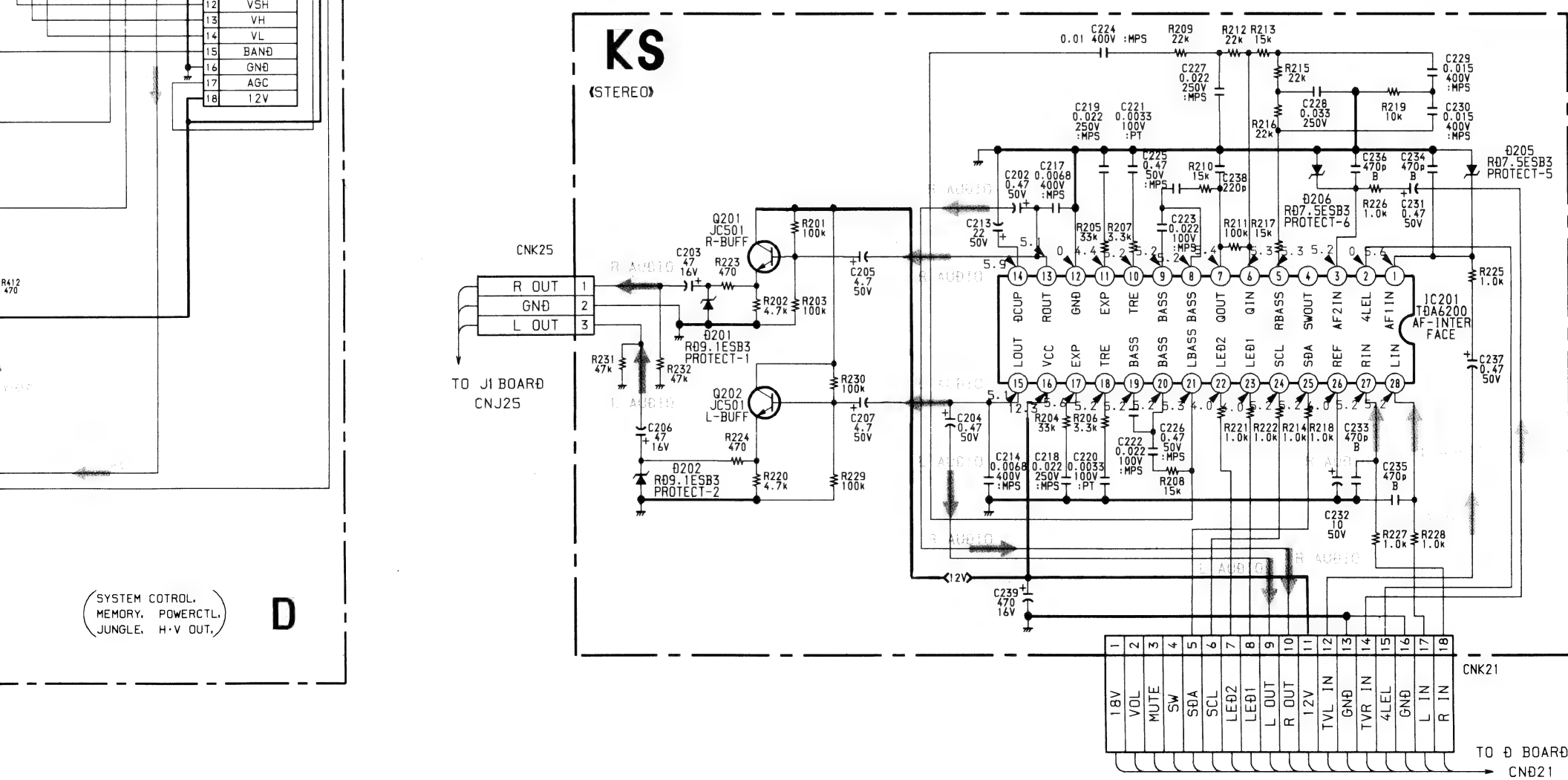
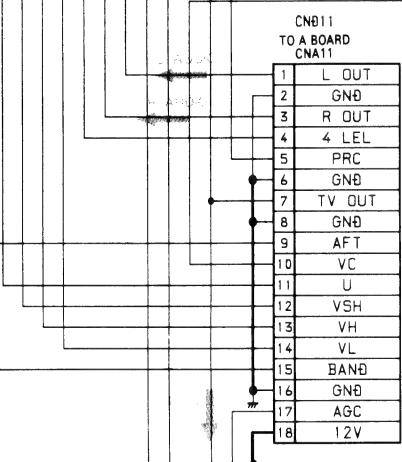
IC		DIODE	
IC301	E-4	D301	E-6
IC302	D-2	D302	E-5
IC331	B-5	D303	E-5
		D304	E-6
		D305	E-6
TRANSISTOR			
Q302	A-1	D307	E-3
Q303	E-1	D309	E-2
Q305	E-3	D331	C-4
Q306	A-1	D333	C-5
Q311	D-5	D341	C-5
Q312	D-4	VARIABLE RESISTOR	
Q313	D-5		
Q316	D-5		
Q331	B-4	RV331	A-6
Q332	C-6		
		CT331	C-6
Q333	D-6	CT332	D-6
Q334	B-3		
Q335	B-4		
Q336	B-2		
Q381	C-2		
Q382	C-3		
Q1316	B-2		







N42



**Ks**

[AF INTERFACE]

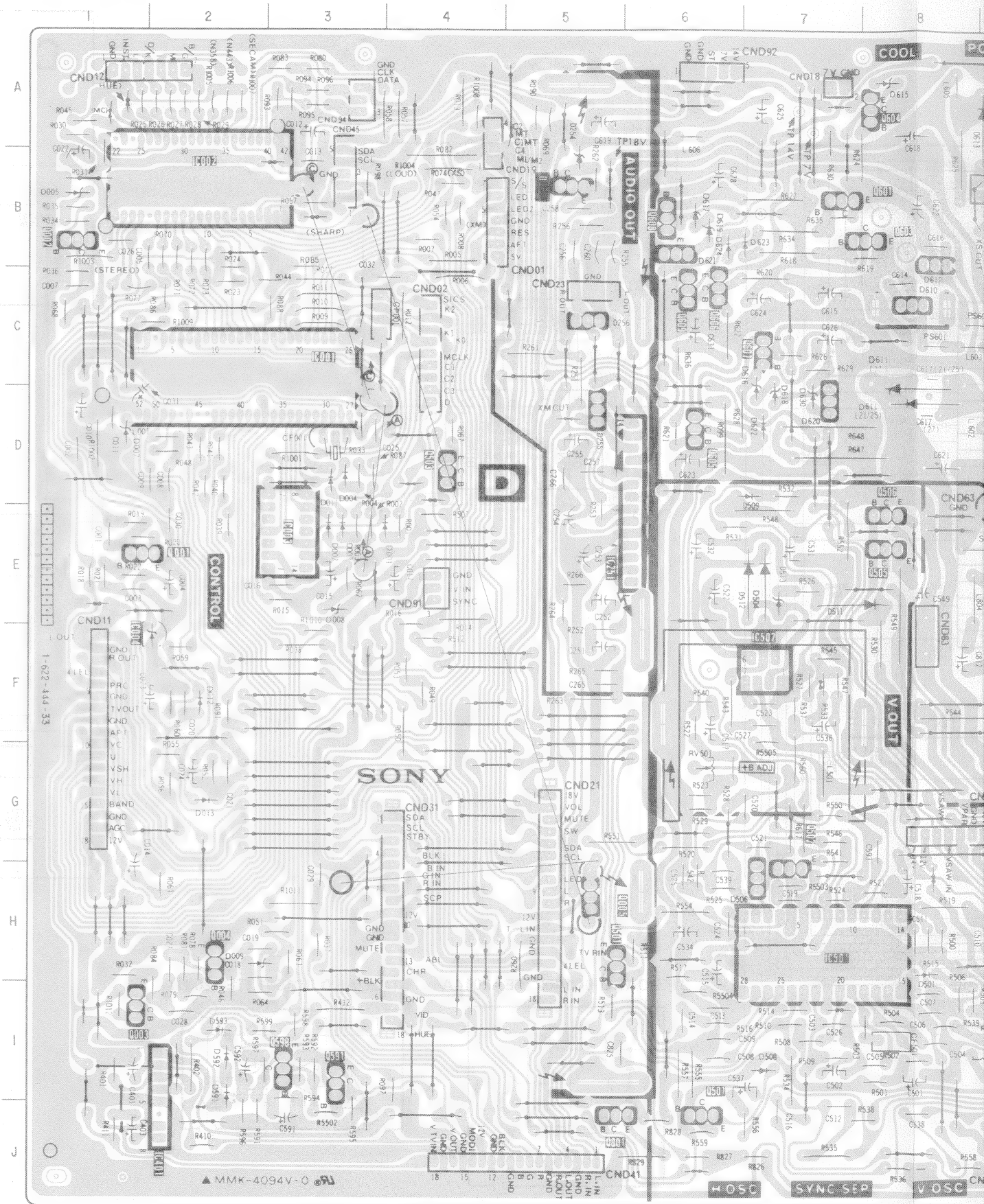
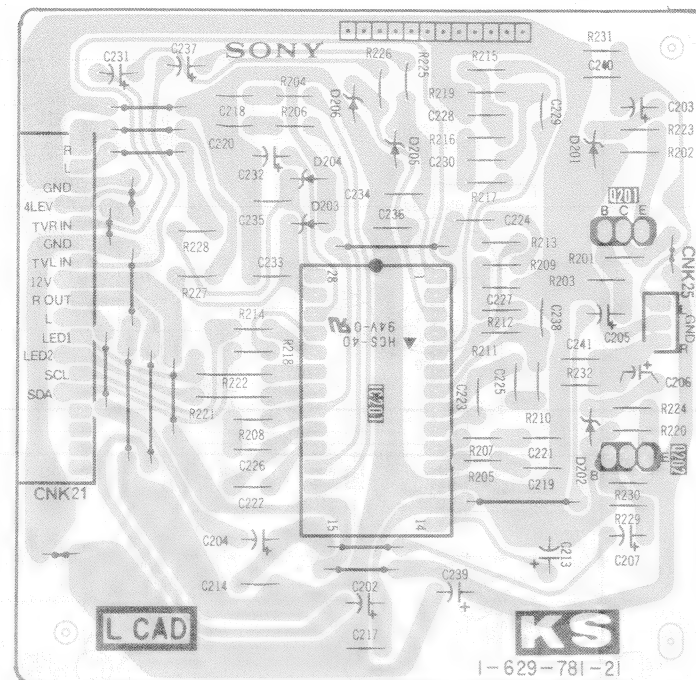
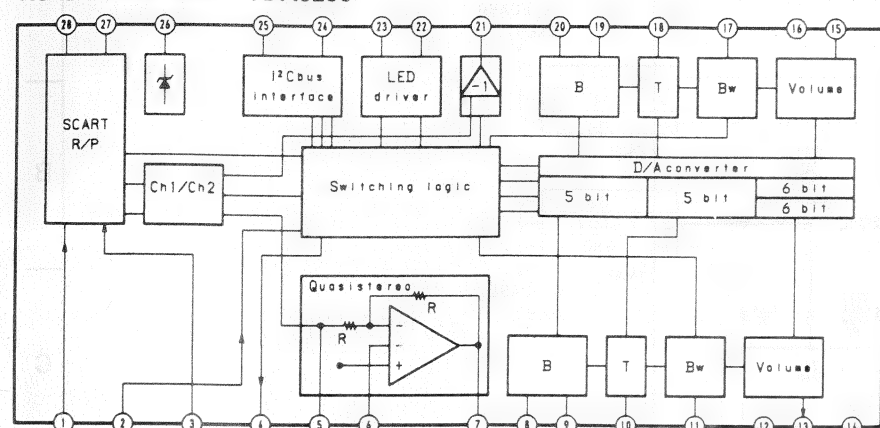
**D**

[AF OUT, Y-CHROMA,  
JUNGLE, V-H DEF]

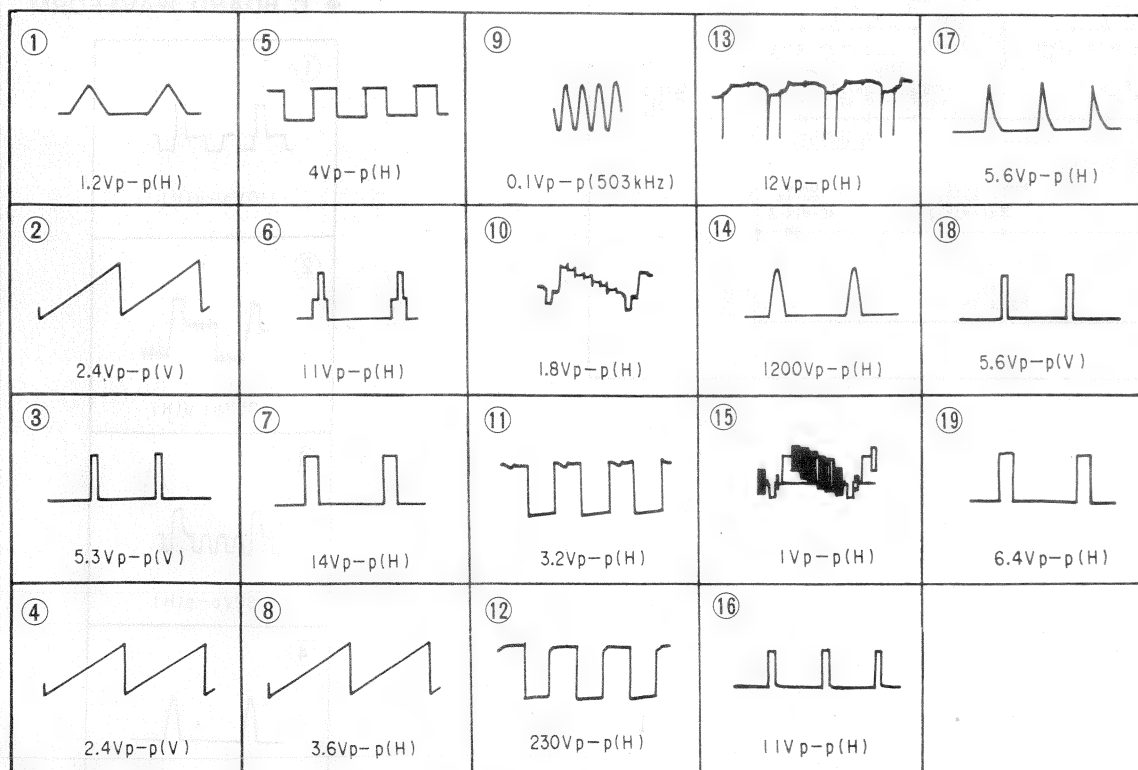
— KS Board —

— D Board —

KS BOARD IC201 TDA6200



• D BOARD WAVEFORM





**Ks**

[AF INTERFACE]

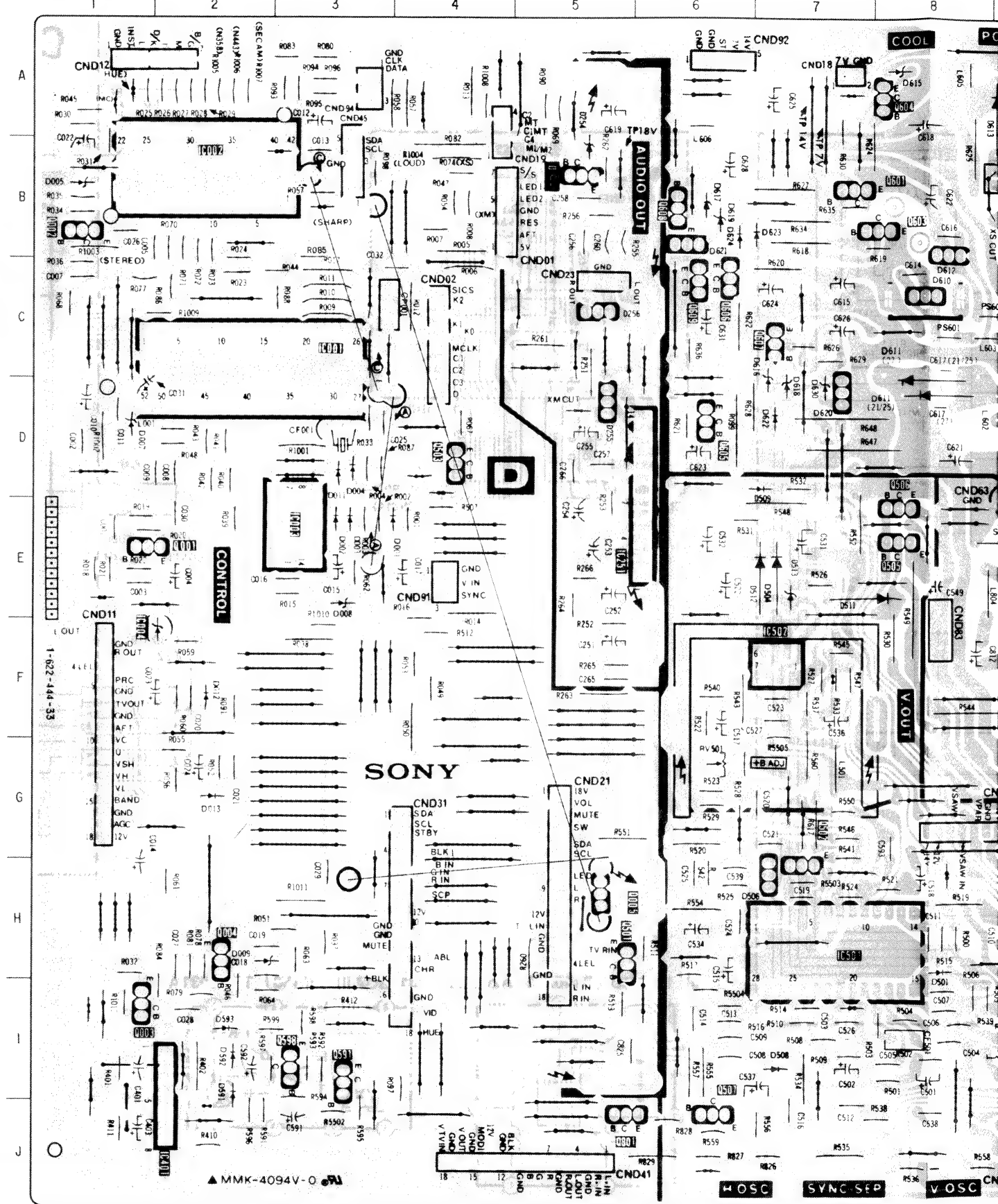
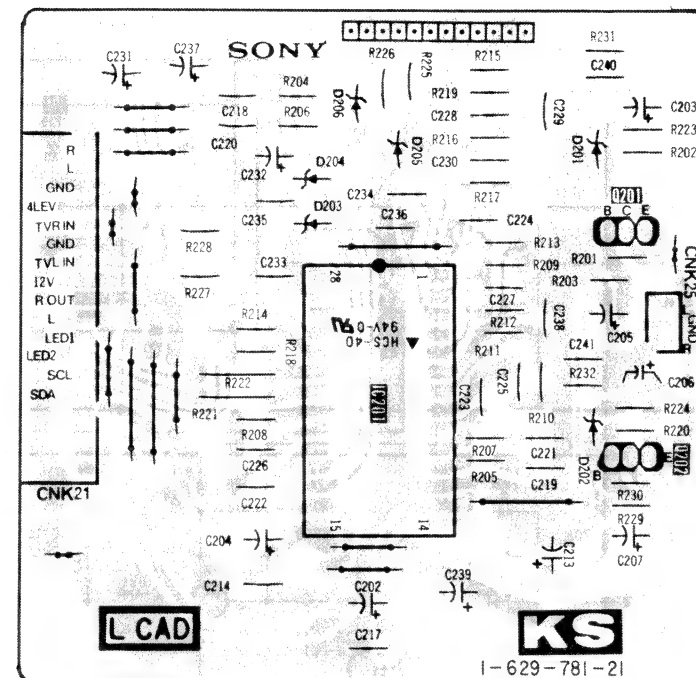
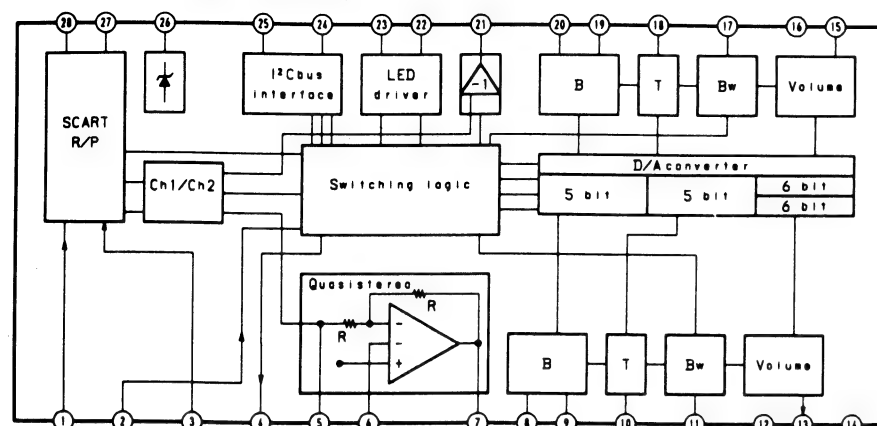
**D**

[AF OUT, Y-CHROMA,  
JUNGLE, V-H DEF]

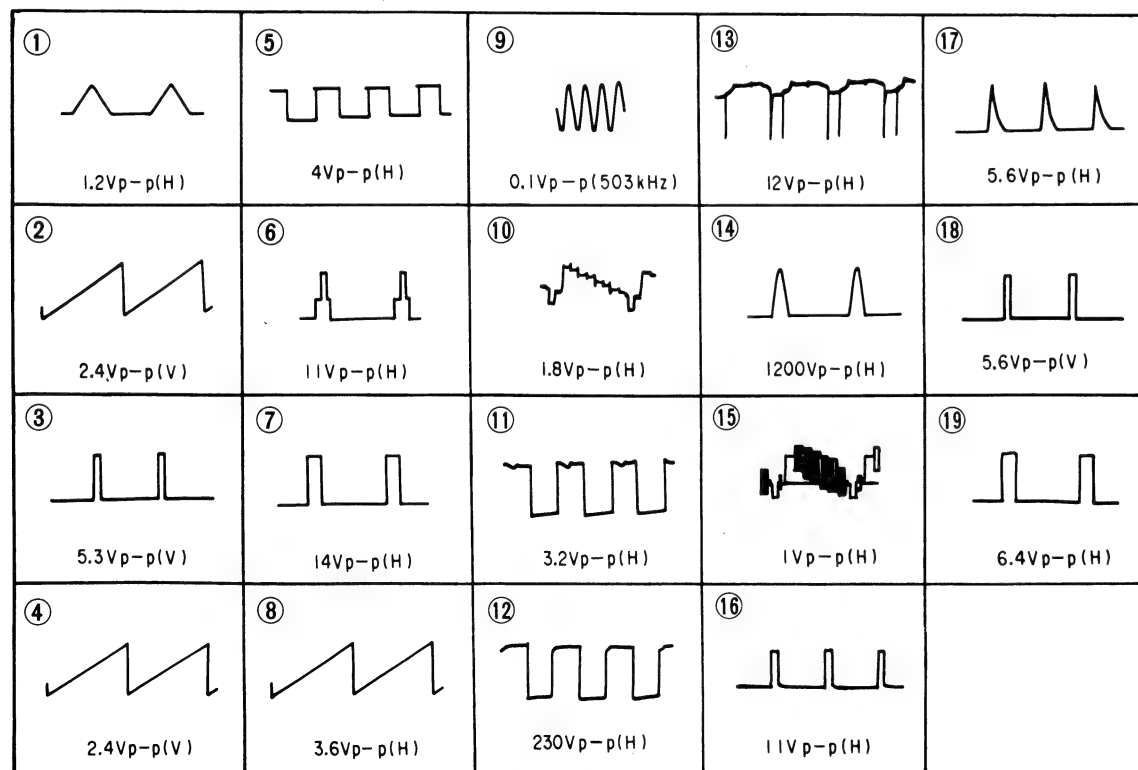
— KS Board —

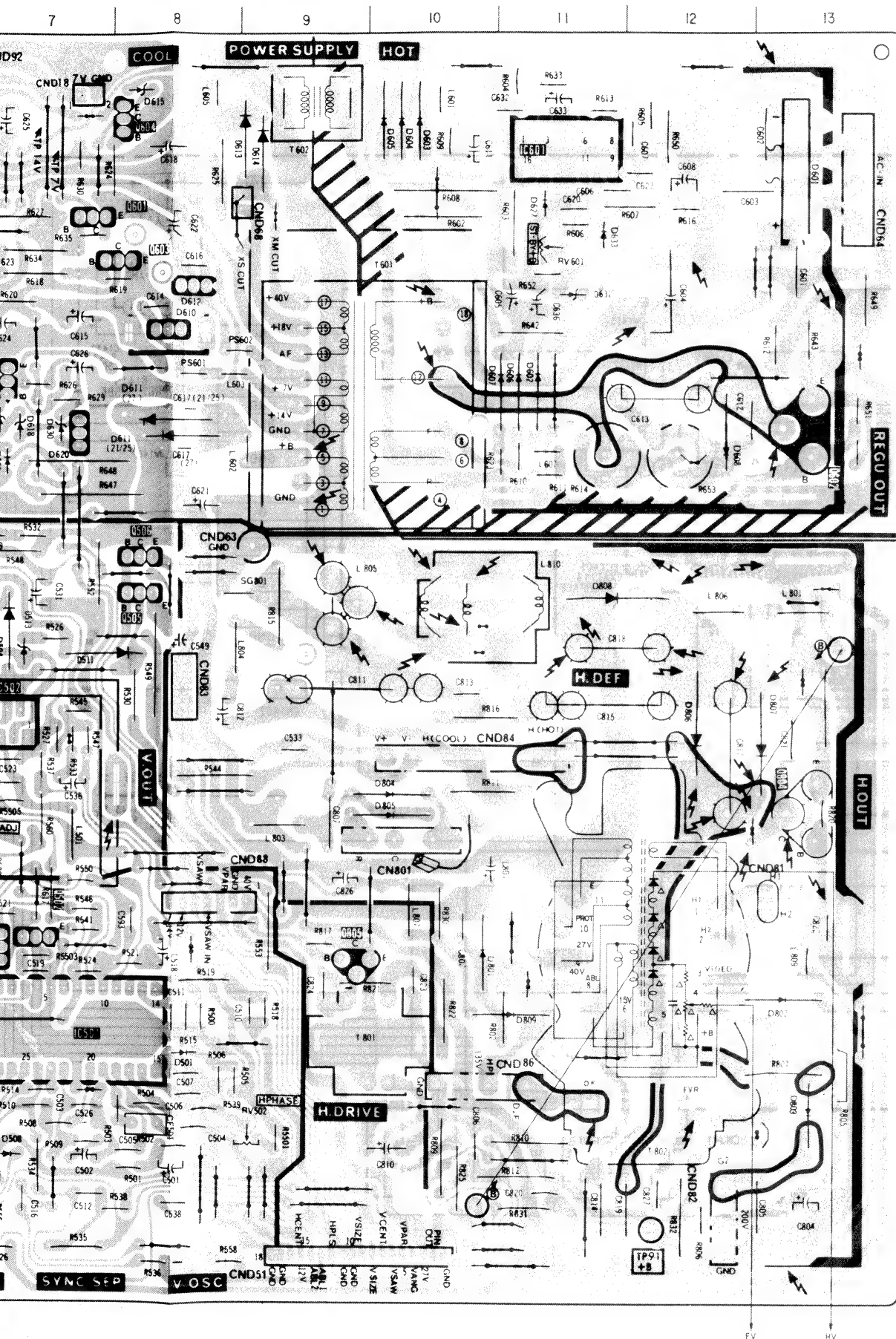
— D Board —

KS BOARD IC201 TDA6200



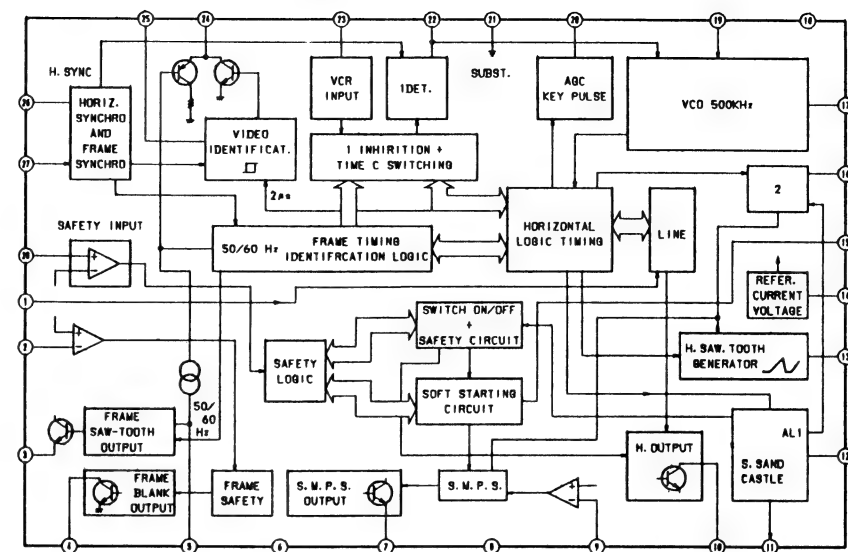
• D BOARD WAVEFORM



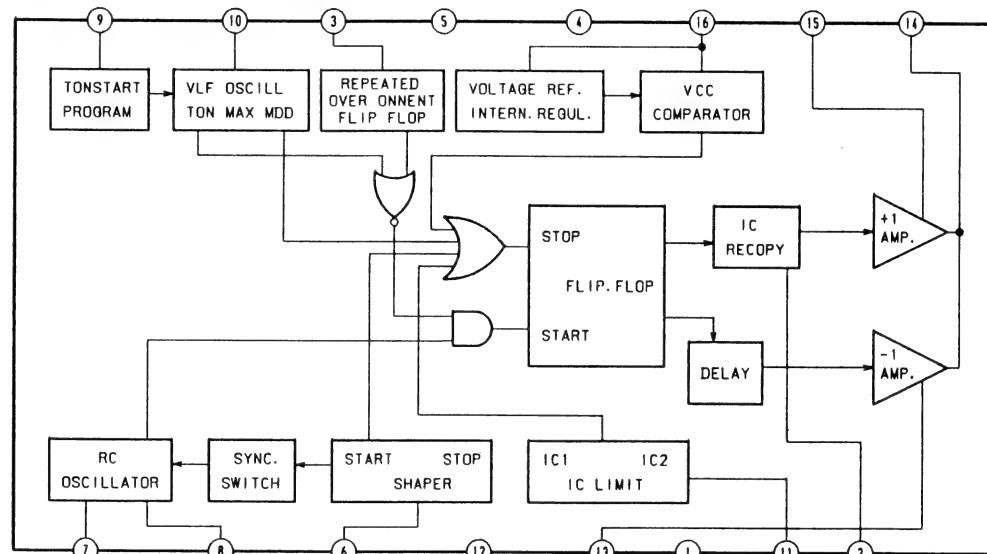


IC		DIODE	
IC001	D-3	D001	E-4
IC002	B-2	D002	E-3
IC003	E-3	D003	E-3
IC004	F-2	D004	D-3
IC251	E-6	D005	B-1
IC401	J-2	D007	D-1
IC501	H-7	D008	F-3
IC502	F-7	D009	I-3
IC601	B-11	D011	E-3
TRANSISTOR			
Q001	E-2	D254	B-5
Q002	B-1	D501	I-8
Q003	I-2	D504	E-7
Q004	H-2	D506	H-7
Q252	B-6	D508	I-7
Q501	H-6	D511	F-8
Q502	H-7	D512	E-7
Q503	D-4	D513	E-7
Q505	E-8	D591	J-2
Q506	E-8	D592	I-2
Q507	J-6	D593	I-2
Q591	I-3	D601	B-13
Q598	I-3	D602	C-11
Q601	B-8	D603	A-10
Q602	D-13	D604	A-10
Q603	B-8	D605	A-10
Q604	A-8	D606	C-11
Q605	D-6	D607	C-11
Q606	C-6	D608	D-11
Q607	C-7	D610	C-8
Q608	B-6	D611	D-8
Q609	C-6	D612	C-8
Q801	J-6	D613	A-9
Q804	G-13	D614	B-9
Q805	H-10	D615	A-8
		D616	D-7
		D617	B-6
		D618	D-7
		D619	B-6
		D620	D-8
		D621	C-6
		D622	D-7
		D623	C-7
		D624	C-7
		D627	B-11
		D630	D-7
		D632	C-11
		D633	C-11
		D801	H-11
		D802	H-13
		D803	I-13
		D804	G-10
		D805	G-10
		D806	F-12
		D808	E-12
		D809	H-11
VARIABLE RESISTOR			
RV501	G-6		
RV502	I-9		
RV601	B-11		

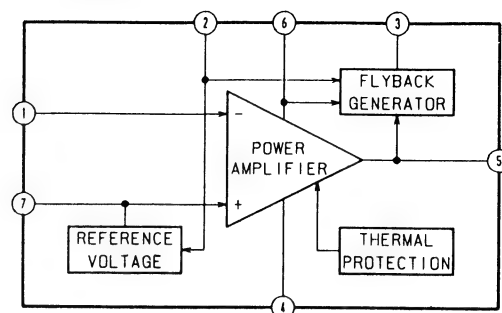
D BOARD IC501 TEA2028A



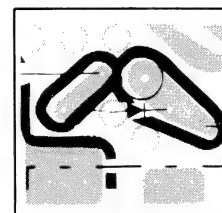
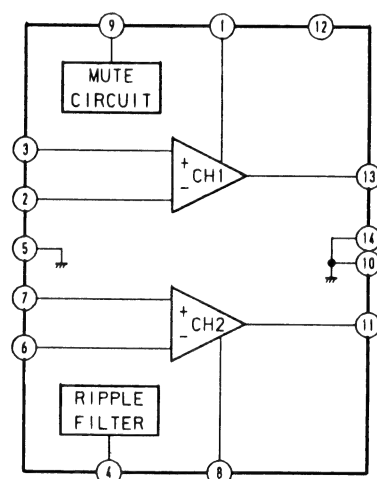
D BOARD IC601 TEA2164



D BOARD IC502 TDA8170



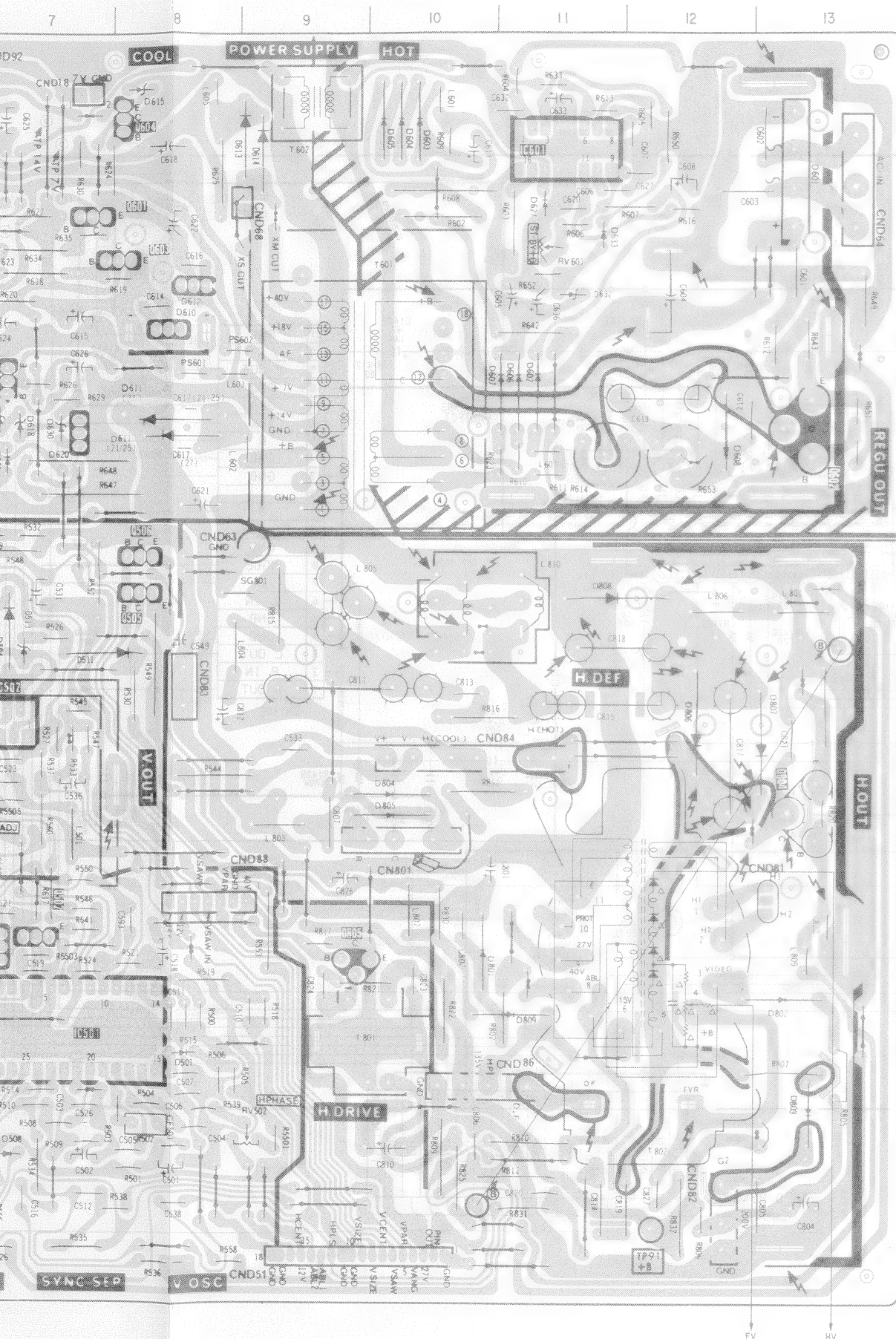
D BOARD IC251 LA4280



**NOTE:**

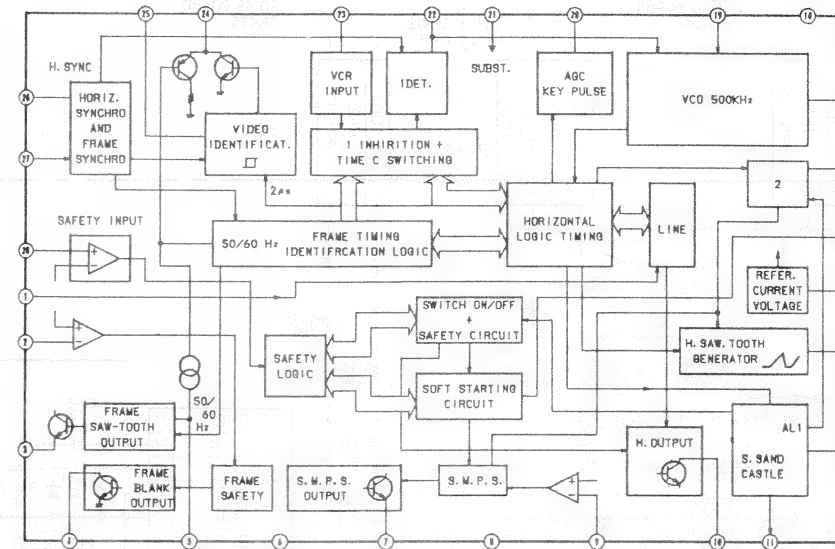
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.



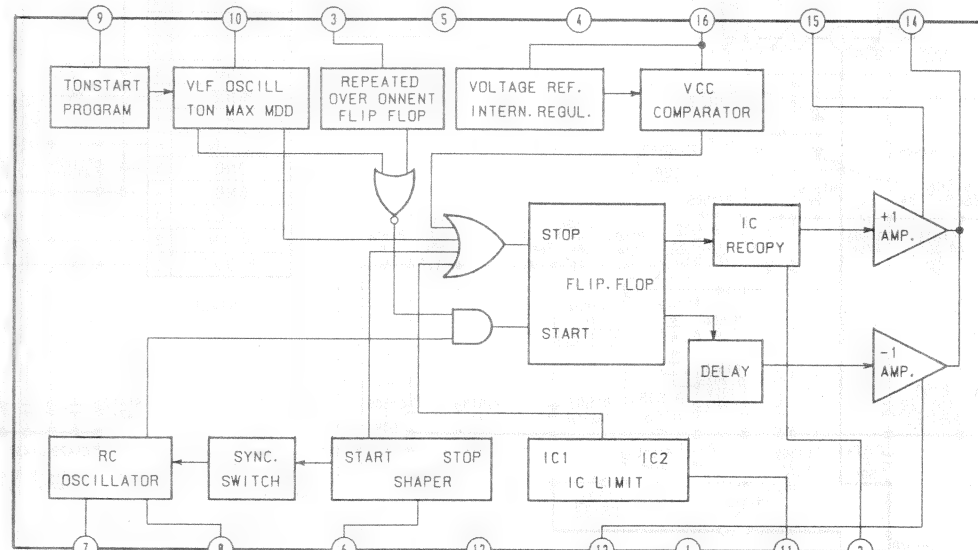


IC	DIODE
IC001 D-3	D001 E-4
IC002 B-2	D002 E-3
IC003 E-3	D003 E-3
IC004 F-2	D004 D-3
IC251 E-6	D005 B-1
IC401 J-2	D007 D-1
IC501 H-7	D008 F-3
IC502 F-7	D009 I-3
IC601 B-11	D011 E-3
	D012 F-2
	D013 G-2
TRANSISTOR	
Q001 E-2	D254 B-5
Q002 B-1	D501 I-8
Q003 I-2	D504 E-7
Q004 H-2	D506 H-7
Q252 B-6	D508 I-7
Q501 H-6	D511 F-8
Q502 H-7	D512 E-7
Q503 D-4	D513 E-7
Q505 E-8	D591 J-2
Q506 E-8	D592 I-2
Q507 J-6	D593 I-2
Q591 I-3	D601 B-13
Q598 I-3	D602 C-11
Q601 B-8	D603 A-10
Q602 D-13	D604 A-10
Q603 B-8	D605 A-10
Q604 A-8	D606 C-11
Q605 D-6	D607 C-11
Q606 C-6	D608 D-11
Q607 C-7	D610 C-8
Q608 B-6	D611 D-8
Q609 C-6	D612 C-8
Q801 J-6	D613 A-9
Q804 G-13	D614 B-9
Q805 H-10	D615 A-8
	D616 D-7
	D617 B-6
	D618 D-7
	D619 B-6
	D620 D-8
	D621 C-6
	D622 D-7
	D623 C-7
	D624 C-7
	D627 B-11
	D630 D-7
	D632 C-11
	D633 C-11
	D801 H-11
	D802 H-13
	D803 I-13
	D804 Q-10
	D805 Q-10
	D806 F-12
	D808 E-12
	D809 H-11
VARIABLE RESISTOR	
RV501 G-6	
RV502 I-9	
RV601 B-11	

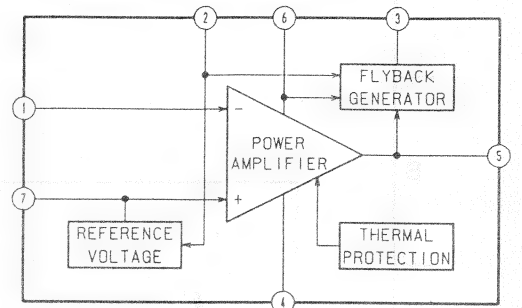
D BOARD IC501 TEA2028A



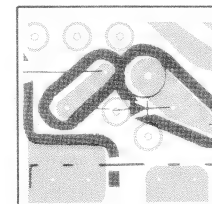
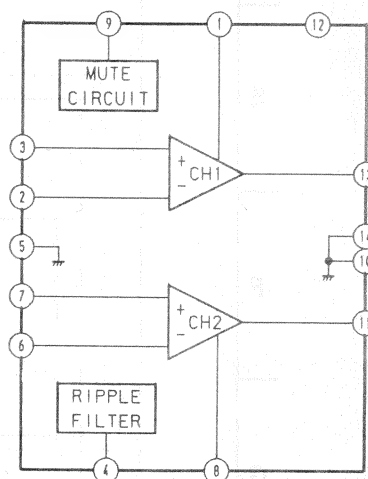
D BOARD IC601 TEA2164



D BOARD IC502 TDA8170

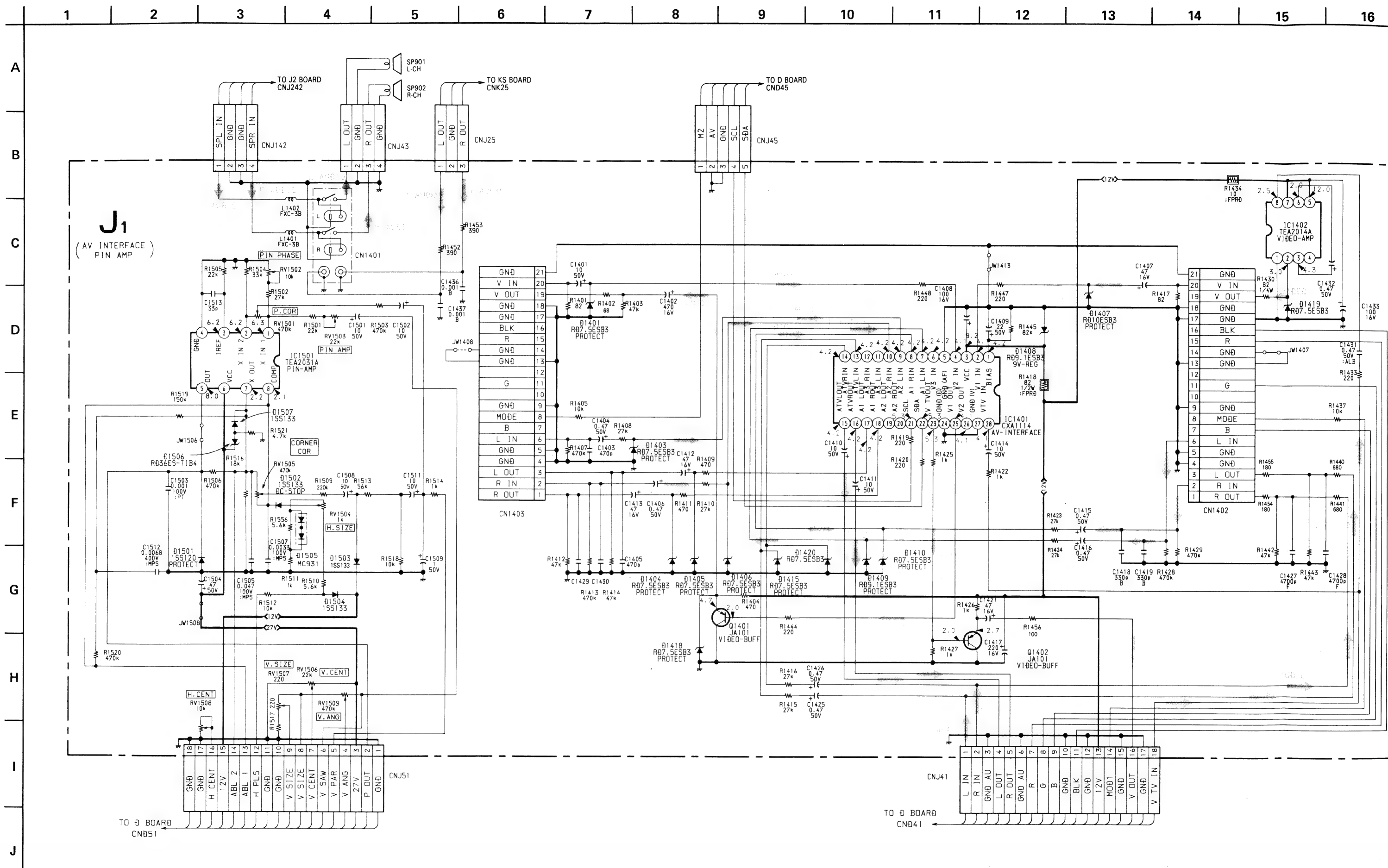


D BOARD IC251 LA4280

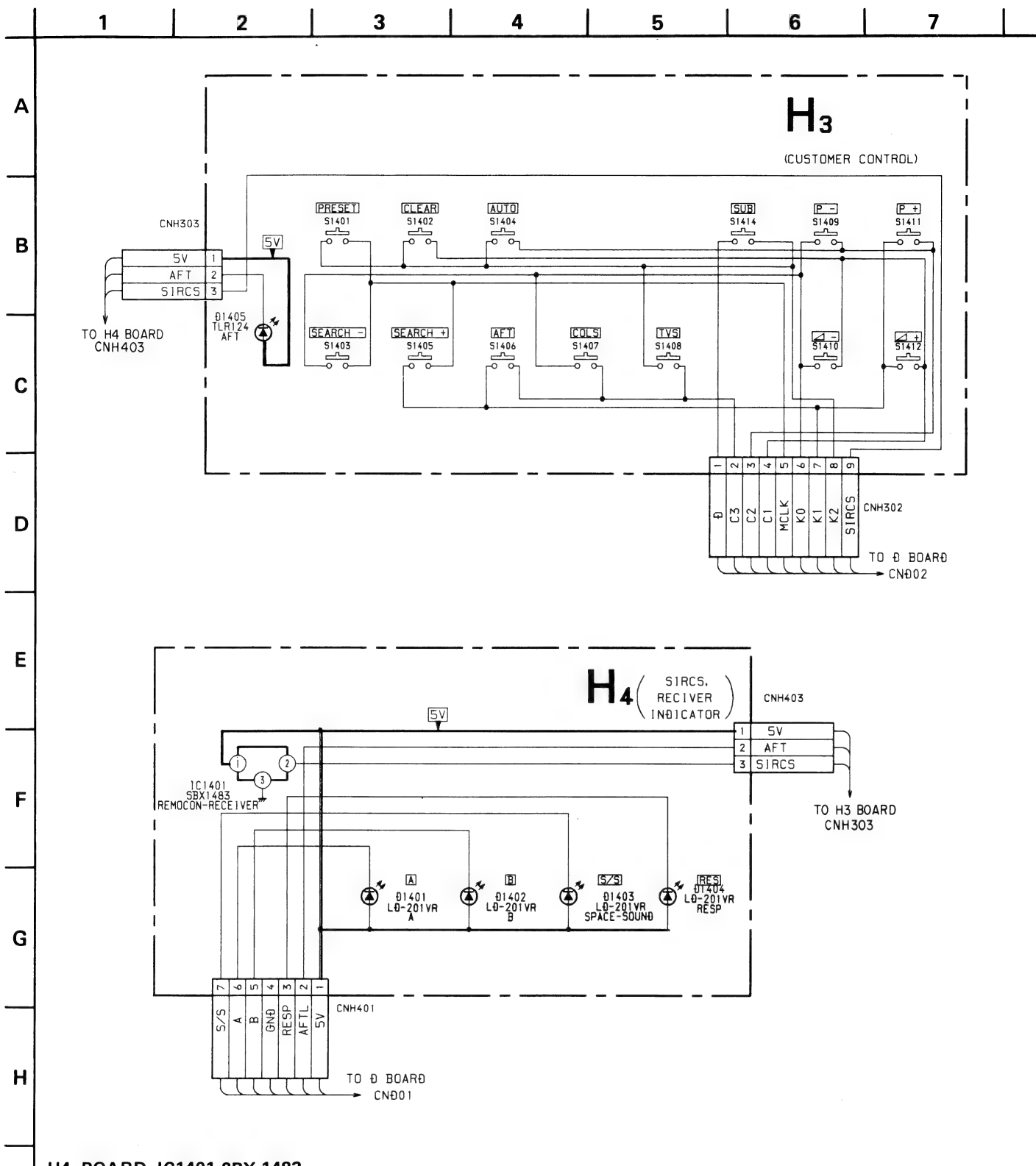


**NOTE:**

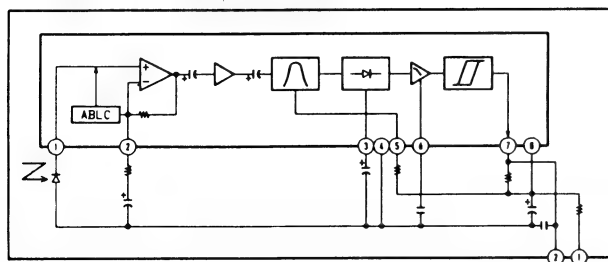
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.







**H4 BOARD IC1401 SBX-1483**





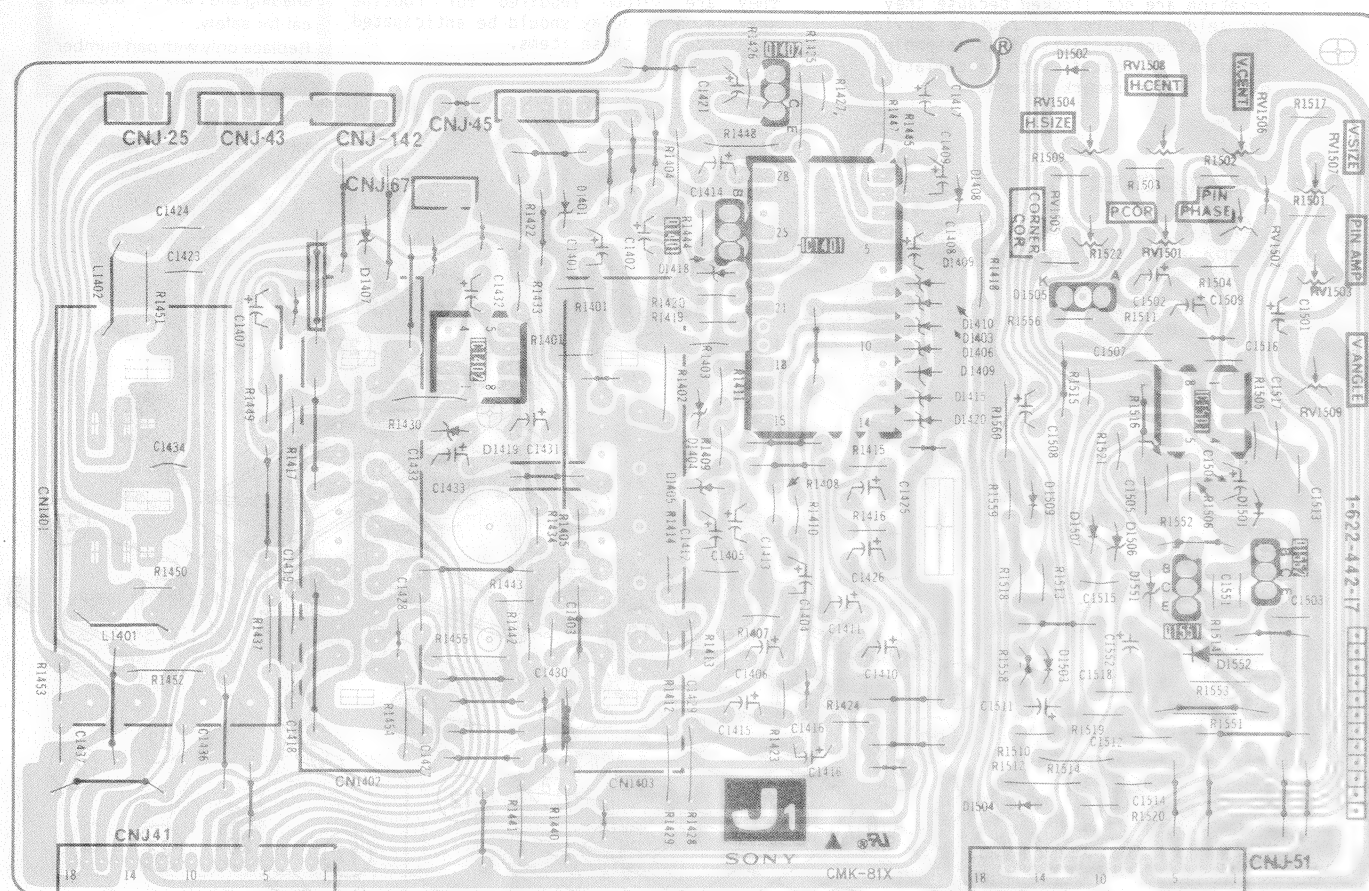
**J1**

[INTERFACE]

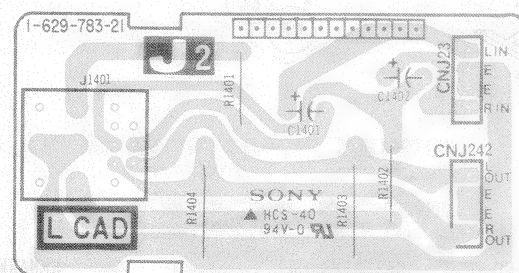
**J2**

[HEADPHONE JACK]

— J1 Board —



— J2 Board —

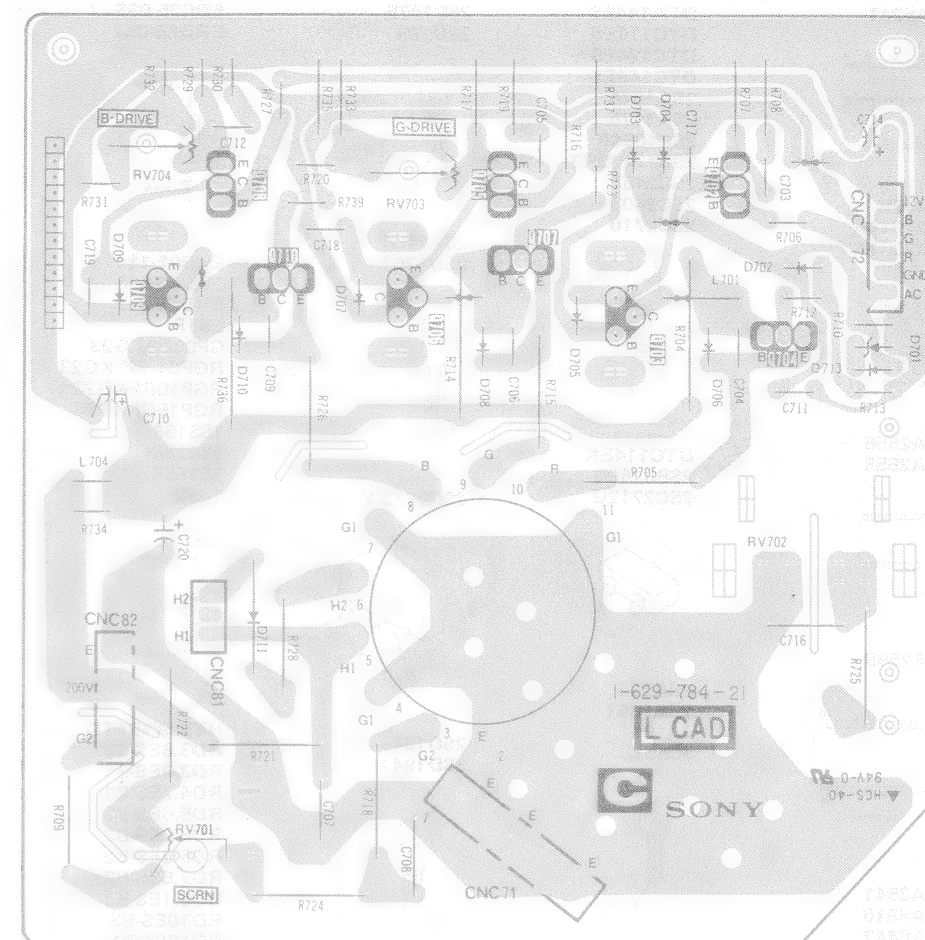
**C**

[R-G-B OUT]

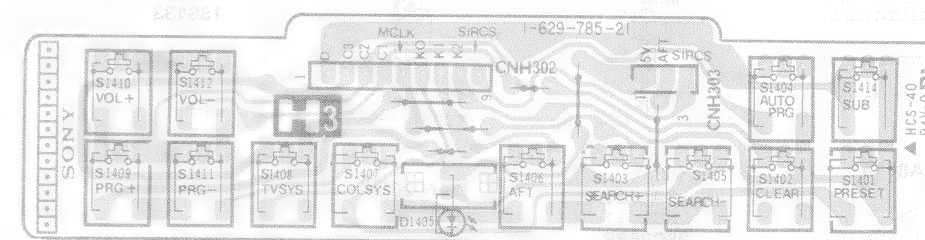
**H3**[CUSTOMER  
CONTROL]**H4**

[REMOCON RECEIVER]

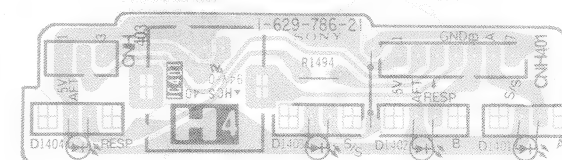
— C Board —



— H3 Board —



— H4 Board —



**J1**

[INTERFACE]

**J2**

[HEADPHONE JACK]

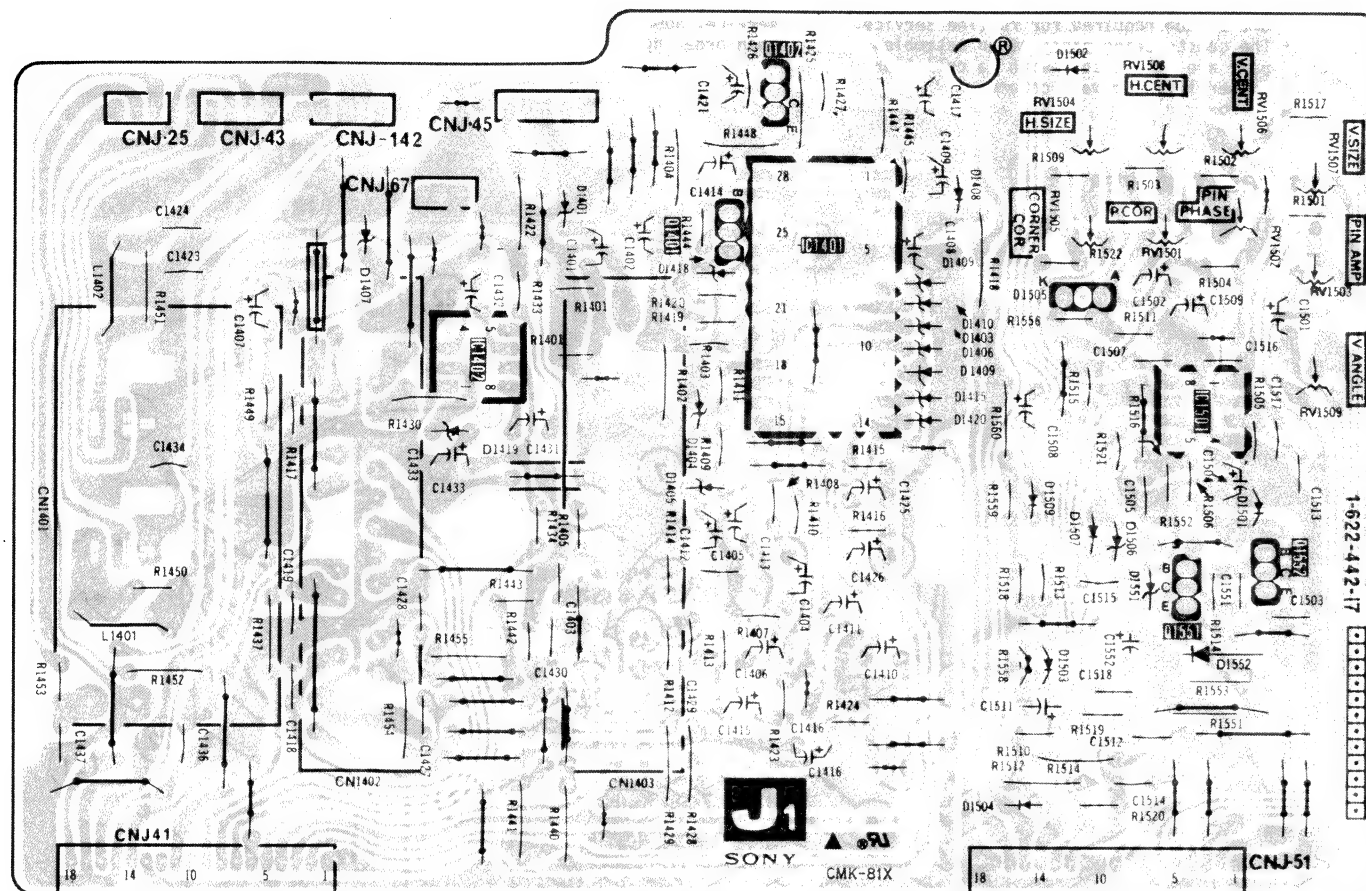
**C**

[R-G-B OUT]

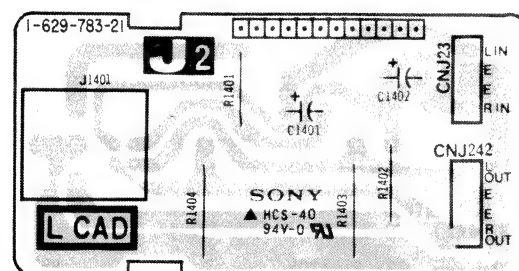
**H3**[CUSTOMER  
CONTROL]**H4**

[REMOCON RECEIVER]

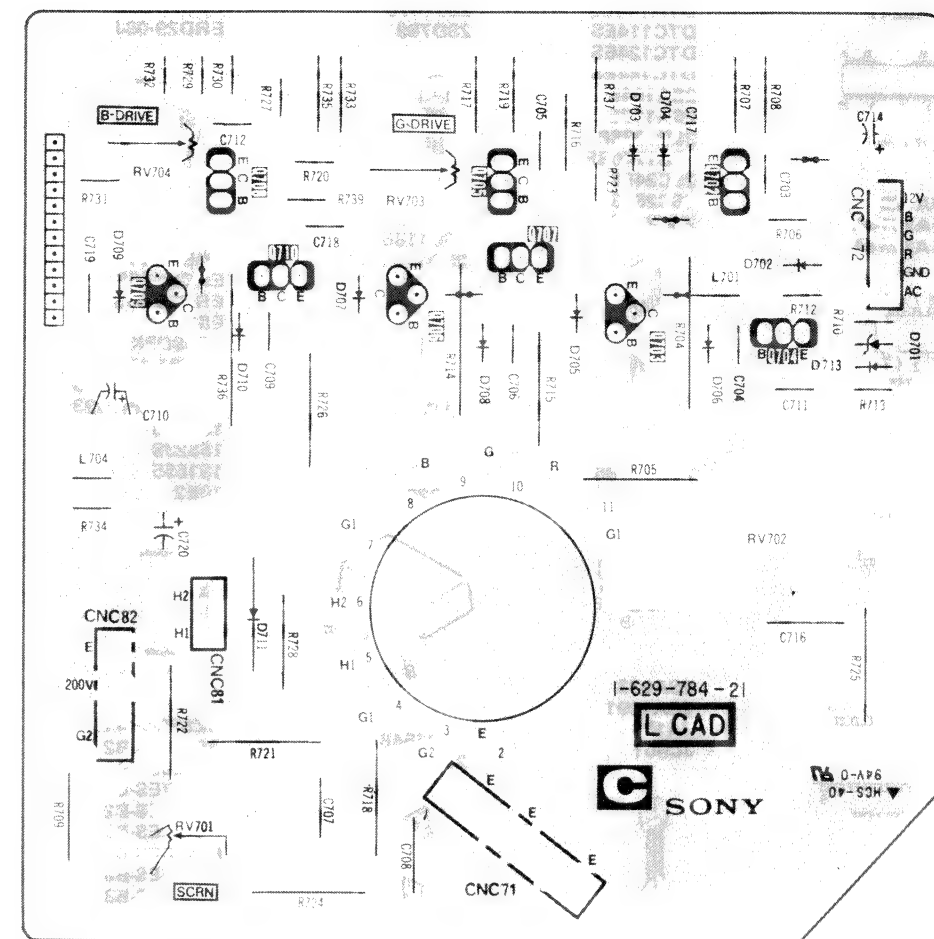
— J1 Board —



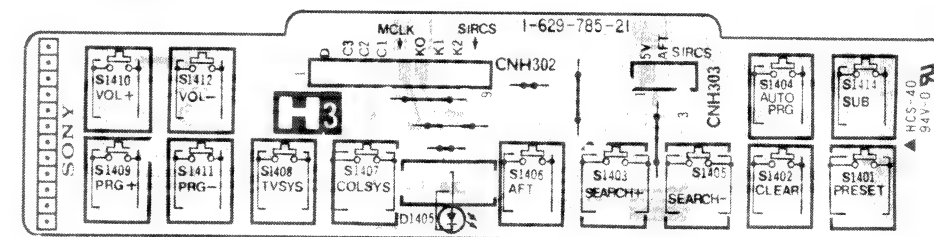
— J2 Board —



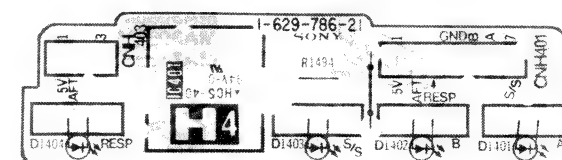
— C Board —



— H3 Board —

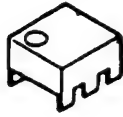


— H4 Board —

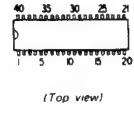


## 5-5. SEMICONDUCTORS

BX1387  
SBX1483

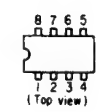


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SDA5241

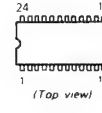


CXA1114P  
MAB8461P  
SAA5231-V6  
TDA4555  
TDA4580  
TDA6200  
TDA6600  
TEA2028B  
TMM2063D

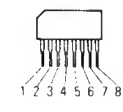
TBA129  
TEA2014A  
TEA2031A



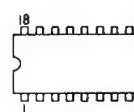
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TDA2558



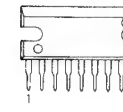
CX20061



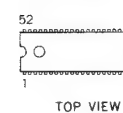
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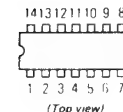
LA4280



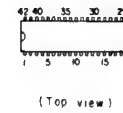
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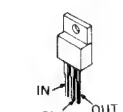
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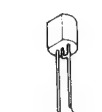
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NJM7812B  
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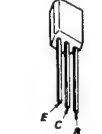
μPC574J



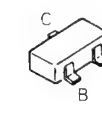
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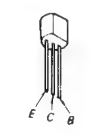
DTA114ES  
DTA144ES  
DTC114ES  
DTC124ES  
DTC144ES  
2SA1048  
2SA1175  
2SC403SP  
2SC1740SRT  
2SC2458  
2SC2603  
2SC2710



DTC114EK  
2SB815B6  
2SC2712G



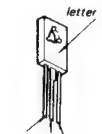
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2SA1091  
JA101  
JC501



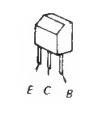
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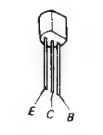
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2SC2611  
2SC2688  
2SC2690A



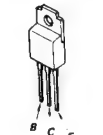
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2SD774



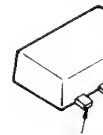
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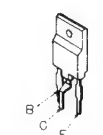
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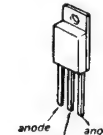
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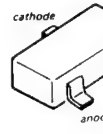
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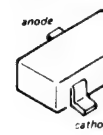
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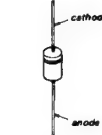
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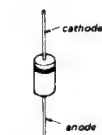
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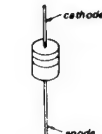
ERC06-15S  
ERC25-06S  
ERD29-08J



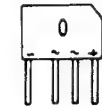
EQB01-11  
ERC24-06S  
ERD28-06S  
ES1F  
GP08DPKG23  
RGP01-17PKG23  
RGP10GPKG23  
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1SS168  
1SS238  
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10E2



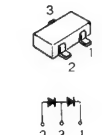
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RD3.6ES-B2  
RD3.9ES-B1  
RD4.7ES-B1  
RD5.6ES-B2  
RD6.2ES-B2  
RD6.8ES-B2  
RD7.5ES-B3  
RD9.1ES-B3  
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RD15ES-B1  
RD36ES-B4  
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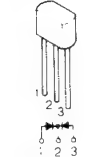
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MA3056M  
MA3068M  
MA3130L



MC921



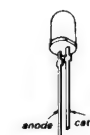
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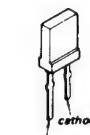
U05G  
V19E



SE303AY



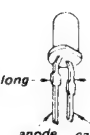
SLP162B



SR632D



TLR124  
LD201VR



### NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

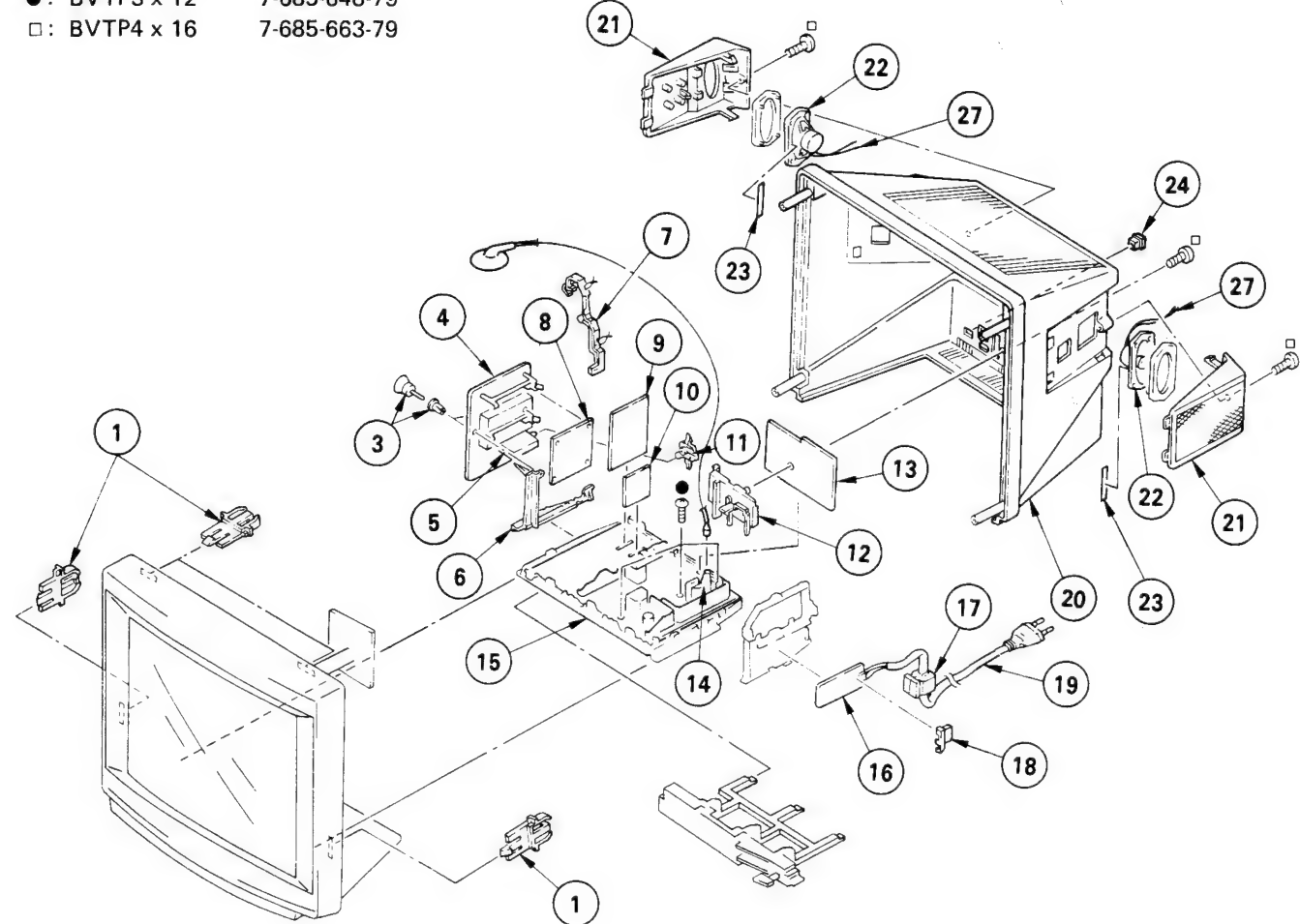
## SECTION 6 EXPLODED VIEWS

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

### 6-1. REAR COVER

- : BVTP3 x 12 7-685-648-79
- : BVTP4 x 16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-382-745-01	HOLDER, RC		14	▲ 1-439-416-11	TRANSFORMER ASSY, FLYBACK	
3	4-386-618-01	RIVET, T TYPE		15	★A-1345-721-A	D BOARD, COMPLETE	
4	★A-1296-476-A	A BOARD, COMPLETE		16	★1-629-719-21	F1 BOARD	
5	▲ 1-465-053-11	TUNER, ET (UV-615S)		17	▲ 4-022-115-01	HOLDER, AC CODE	
6	★4-386-629-12	BRACKET, A		18	★4-386-620-01	COVER, POWER	
7	★4-386-628-11	SUPPORTER, PC BOARD		19	▲ 1-559-346-12	CORD, POWER (WITH CONNECTOR)	
8	★A-1347-030-A	V BOARD, COMPLETE		20	4-387-808-11	COVER, REAR	
9	★A-1135-498-A	B BOARD, COMPLETE		21	X-4385-930-3	BOARD ASSY, BAFFLE	
10	★1-629-781-21	KS BOARD		22	1-503-642-41	SPEAKER	
11	★4-386-617-01	HOLDER, TERMINAL		23	4-387-886-01	SPACER, BAFFLE BOARD	
12	★4-386-624-11	BRACKET, J		24	4-389-292-01	BUSHING, CORD	
13	★A-1371-373-A	J1 BOARD, COMPLETE		27	1-574-565-11	CORD (WITH PLUG)	

### 6-2. PIC



### REF.NO. PAR

51	4-38
52	4-38
53	4-38
54	4-38
55	X-43
56	4-38
57	★4-38
58	▲ 1-45
59	4-38
60	1-45
61	3-70
62	▲ 1-45
63	★4-37
64	★A-13
65	★4-37
66	4-36
67	▲ 1-42

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.



## SECTION 6 EXPLODED VIEWS

### NOTE:

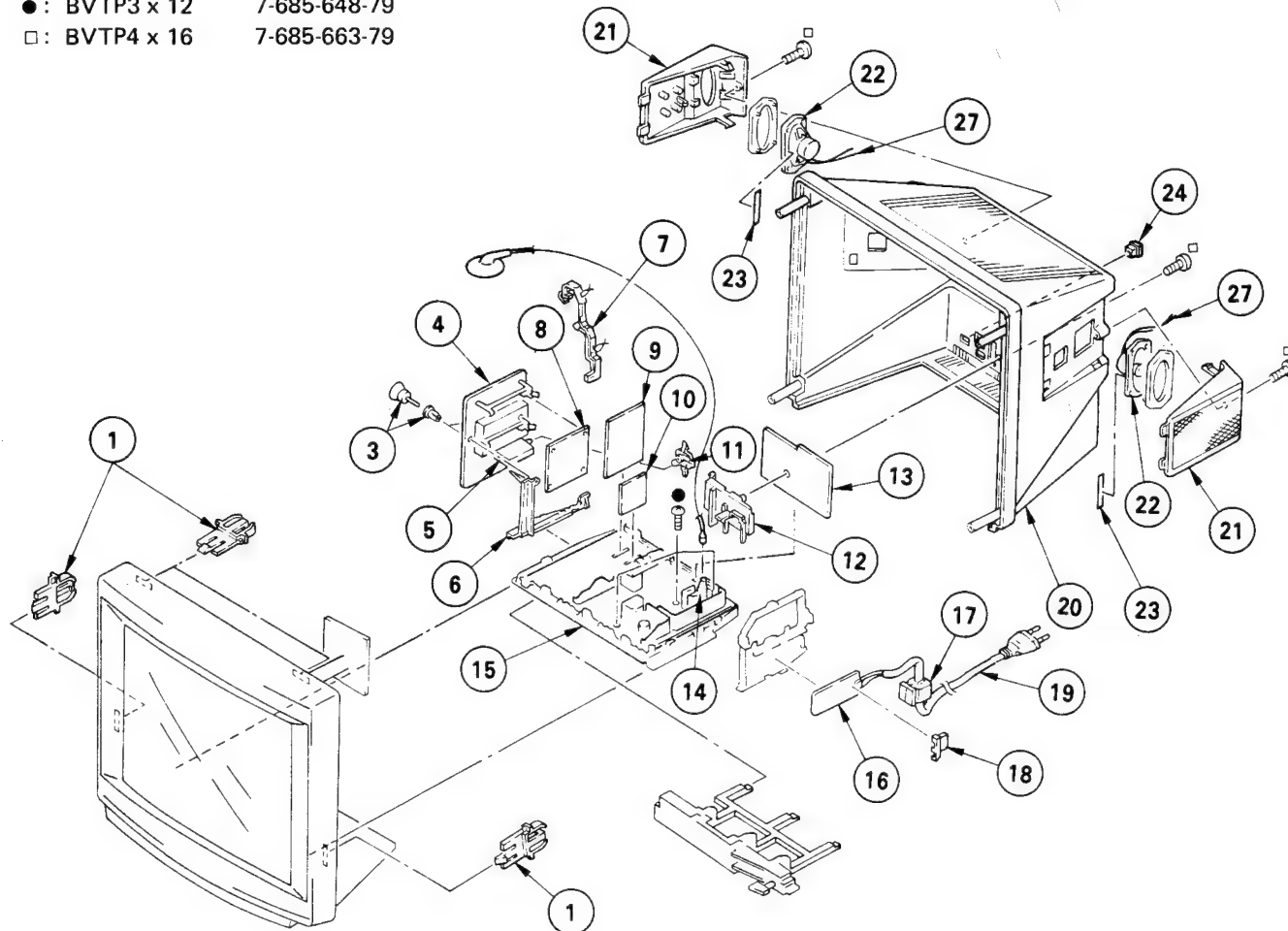
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

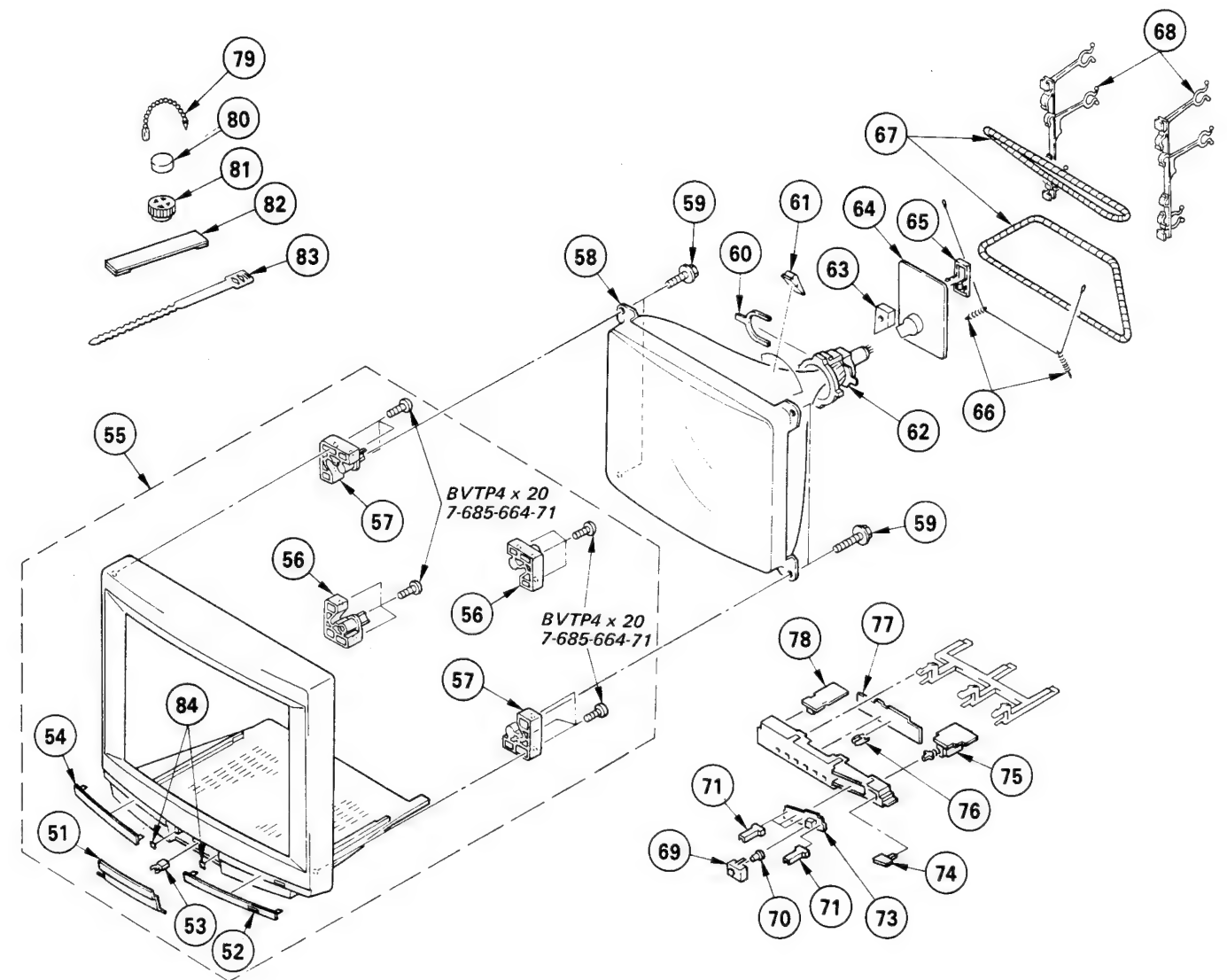
The components identified by shading and mark **▲** are critical for safety.  
Replace only with part number specified.

### 6-1. REAR COVER

- : BVTP3 x 12 7-685-648-79
- : BVTP4 x 16 7-685-663-79



### 6-2. PICTURE TUBE



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-382-745-01	HOLDER, RC		14	▲ 1-439-416-11	TRANSFORMER ASSY, FLYBACK	
3	4-386-618-01	RIVET, T TYPE		15	★A-1345-721-A	D BOARD, COMPLETE	
4	★A-1296-476-A	A BOARD, COMPLETE		16	★1-629-719-21	F1 BOARD	
5	▲ 1-465-053-11	TUNER, ET (UV-615S)		17	▲ 4-022-115-01	HOLDER, AC CODE	
6	★4-386-629-12	BRACKET, A		18	★4-386-620-01	COVER, POWER	
7	★4-386-628-11	SUPPORTER, PC BOARD		19	▲ 1-559-346-12	CORD, POWER (WITH CONNECTOR)	
8	★A-1347-030-A	V BOARD, COMPLETE		20	4-387-808-11	COVER, REAR	
9	★A-1135-498-A	B BOARD, COMPLETE		21	X-4385-930-3	BOARD ASSY, BAFFLE	
10	★1-629-781-21	KS BOARD		22	1-503-642-41	SPEAKER	
11	★4-386-617-01	HOLDER, TERMINAL		23	4-387-886-01	SPACER, BAFFLE BOARD	
12	★4-386-624-11	BRACKET, J		24	4-389-292-01	BUSHING, CORD	
13	★A-1371-373-A	J1 BOARD, COMPLETE		27	1-574-565-11	CORD (WITH PLUG)	

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-389-279-01	DOOR, CONTROL		68	★4-386-622-01	BAND, DGC	
52	4-389-280-01	PLATE (A), ORNAMENTAL		69	★4-388-955-01	BRACKET (B), LIGHT GUIDE	
53	4-386-710-01	CATCHER, PUSH		70	★4-374-987-01	GUIDE, LIGHT	
54	4-389-281-01	PLATE (B), ORNAMENTAL		71	★4-387-825-01	HOLDER, LED	
55	X-4389-210-1	BEZNET ASSY	51-54, 56, 57	73	★1-629-786-21	H4 BOARD	
56	4-387-805-03	BRACKET (A), PICTURE TUBE		74	4-389-278-01	BUTTON, POWER	
57	★4-387-806-03	BRACKET (B), PICTURE TUBE		75	★1-629-720-21	F2 BOARD	
58	▲ 8-738-753-05	PICTURE TUBE (A51JUH60X)		76	★4-384-208-01	HOLDER, LED	
59	4-382-733-01	SCREW (S), PT		77	★1-629-785-21	H3 BOARD	
60	1-452-277-00	MAGNET, BMC		78	★1-629-783-21	J2 BOARD	
61	3-703-961-01	SPACER, DY		79	4-308-870-00	CLIP, LEAD WIRE	
62	▲ 1-451-295-31	DEFLECTION YOKE (SY-153E)		80	1-452-032-00	MAGNET, DISK; 10MM $\phi$	
63	★4-379-167-01	COVER (MAIN), CV		81	1-452-094-00	MAGNET, ROTATABLE DISK; 150MM $\phi$	
64	★A-1330-850-A	C BOARD, COMPLETE		82	X-4309-608-0	PERMALOY ASSY, CONVERGENCE	
65	★4-379-160-01	COVER (REAR LID), CV		83	3-701-007-00	BAND, BINDING	
66	4-369-318-00	SPRING, TENSION		84	4-314-871-00	CUSHION	
67	▲ 1-426-383-11	COIL, DEMAGNETIZATION					

The components identified by shading and mark **▲** are critical for safety.  
Replace only with part number specified.

## B

**B**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<COIL>							
L301	1-410-868-21	INDUCTOR	4.7UH	R328	1-249-397-11	CARBON	22 5% 1/4W
L302	1-410-868-21	INDUCTOR	4.7UH	R329	1-249-397-11	CARBON	22 5% 1/4W
L303	1-408-408-00	INDUCTOR	8.2UH	R330	1-249-397-11	CARBON	22 5% 1/4W
L304	1-408-409-00	INDUCTOR	10UH	R331	1-249-418-11	CARBON	1.2K 5% 1/4W
L331	1-408-408-00	INDUCTOR	8.2UH	R332	1-249-401-11	CARBON	47 5% 1/4W
L332	1-404-539-11	COIL		R333	1-249-412-11	CARBON	390 5% 1/4W
L333	1-404-554-11	COIL		R334	1-249-408-11	CARBON	180 5% 1/4W
L334	1-404-554-11	COIL		R335	1-249-415-11	CARBON	680 5% 1/4W
L335	1-404-554-11	COIL		R336	1-249-418-11	CARBON	1.2K 5% 1/4W
L336	1-408-417-00	INDUCTOR	47UH	R337	1-247-848-11	CARBON	5.1K 5% 1/4W
L338	1-408-416-00	INDUCTOR	39UH	R338	1-249-429-11	CARBON	10K 5% 1/4W
L339	1-410-868-21	INDUCTOR	4.7UH	R339	1-249-409-11	CARBON	220 5% 1/4W
<TRANSISTOR>				R340	1-249-437-11	CARBON	47K 5% 1/4W
Q302	8-729-119-78	TRANSISTOR	2SC2785-HFE	R341	1-249-410-11	CARBON	270 5% 1/4W
Q303	8-729-119-78	TRANSISTOR	2SC2785-HFE	R342	1-249-429-11	CARBON	10K 5% 1/4W
Q305	8-729-900-36	TRANSISTOR	DTC124ES	R343	1-249-429-11	CARBON	10K 5% 1/4W
Q306	8-729-119-78	TRANSISTOR	2SC2785-HFE	R344	1-249-437-11	CARBON	47K 5% 1/4W
Q311	8-729-119-78	TRANSISTOR	2SC2785-HFE	R346	1-249-419-11	CARBON	1.5K 5% 1/4W
Q312	8-729-119-78	TRANSISTOR	2SC2785-HFE	R347	1-249-429-11	CARBON	10K 5% 1/4W
Q313	8-729-119-78	TRANSISTOR	2SC2785-HFE	R348	1-249-437-11	CARBON	47K 5% 1/4W
Q316	8-729-119-78	TRANSISTOR	2SC2785-HFE	R349	1-249-415-11	CARBON	680 5% 1/4W
Q331	8-729-119-78	TRANSISTOR	2SC2785-HFE	R350	1-249-415-11	CARBON	680 5% 1/4W
Q332	8-729-900-36	TRANSISTOR	DTC124ES	R351	1-249-409-11	CARBON	220 5% 1/4W
Q333	8-729-900-36	TRANSISTOR	DTC124ES	R352	1-247-891-00	CARBON	330K 5% 1/4W
Q334	8-729-119-78	TRANSISTOR	2SC2785-HFE	R353	1-247-891-00	CARBON	330K 5% 1/4W
Q335	8-729-119-78	TRANSISTOR	2SC2785-HFE	R354	1-249-409-11	CARBON	220 5% 1/4W
Q336	8-729-119-78	TRANSISTOR	2SC2785-HFE	R355	1-249-423-11	CARBON	3.3K 5% 1/4W
Q381	8-729-900-36	TRANSISTOR	DTC124ES	R356	1-249-427-11	CARBON	6.8K 5% 1/4W
Q382	8-729-119-78	TRANSISTOR	2SC2785-HFE	R358	1-249-409-11	CARBON	220 5% 1/4W
Q1306	8-729-173-38	TRANSISTOR	2SA733-K	R359	1-249-437-11	CARBON	47K 5% 1/4W
<RESISTOR>				R360	1-249-437-11	CARBON	47K 5% 1/4W
R301	1-249-409-11	CARBON	220 5% 1/4W	R361	1-249-418-11	CARBON	1.2K 5% 1/4W
R302	1-249-409-11	CARBON	220 5% 1/4W	R363	1-249-410-11	CARBON	270 5% 1/4W
R303	1-249-409-11	CARBON	220 5% 1/4W	R364	1-249-417-11	CARBON	1K 5% 1/4W
R304	1-249-409-11	CARBON	220 5% 1/4W	R365	1-249-417-11	CARBON	1K 5% 1/4W
R305	1-249-421-11	CARBON	2.2K 5% 1/4W	R367	1-249-409-11	CARBON	220 5% 1/4W
R307	1-249-441-11	CARBON	100K 5% 1/4W	R368	1-249-417-11	CARBON	1K 5% 1/4W
R308	1-249-414-11	CARBON	560 5% 1/4W	R369	1-249-417-11	CARBON	1K 5% 1/4W
R309	1-249-405-11	CARBON	100 5% 1/4W	R370	1-249-418-11	CARBON	1.2K 5% 1/4W
R310	1-249-405-11	CARBON	100 5% 1/4W	R371	1-249-417-11	CARBON	1K 5% 1/4W
R311	1-249-405-11	CARBON	100 5% 1/4W	R376	1-249-429-11	CARBON	10K 5% 1/4W
R312	1-249-409-11	CARBON	220 5% 1/4W	R378	1-249-441-11	CARBON	100K 5% 1/4W
R313	1-249-433-11	CARBON	22K 5% 1/4W	R379	1-249-441-11	CARBON	100K 5% 1/4W
R314	1-249-413-11	CARBON	470 5% 1/4W	R380	1-249-426-11	CARBON	5.6K 5% 1/4W
R315	1-249-407-11	CARBON	150 5% 1/4W	R381	1-249-439-11	CARBON	68K 5% 1/4W
R316	1-249-407-11	CARBON	150 5% 1/4W	R382	1-247-885-00	CARBON	180K 5% 1/4W
R317	1-249-407-11	CARBON	150 5% 1/4W	R383	1-247-893-11	CARBON	390K 5% 1/4W
R318	1-249-429-11	CARBON	10K 5% 1/4W	R385	1-249-435-11	CARBON	33K 5% 1/4W
R319	1-249-409-11	CARBON	220 5% 1/4W	R389	1-247-883-00	CARBON	150K 5% 1/4W
R320	1-249-417-11	CARBON	1K 5% 1/4W	R390	1-249-411-11	CARBON	330 5% 1/4W
R321	1-249-421-11	CARBON	2.2K 5% 1/4W	R391	1-249-404-00	CARBON	82 5% 1/4W
R322	1-249-420-11	CARBON	1.8K 5% 1/4W	R392	1-249-402-11	CARBON	56 5% 1/4W
R323	1-249-421-11	CARBON	2.2K 5% 1/4W	R393	1-249-402-11	CARBON	56 5% 1/4W
R324	1-249-426-11	CARBON	5.6K 5% 1/4W	R394	1-249-402-11	CARBON	56 5% 1/4W
R325	1-249-429-11	CARBON	10K 5% 1/4W	R398	1-249-433-11	CARBON	22K 5% 1/4W
R326	1-249-419-11	CARBON	1.5K 5% 1/4W	R1324	1-249-419-11	CARBON	1.5K 5% 1/4W
R327	1-249-427-11	CARBON	6.8K 5% 1/4W	<VARIABLE RESISTOR>			
				RV331	1-238-009-11	RES, ADJ, CARBON 220	

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

**B** **F<sub>2</sub>** **F<sub>1</sub>** **A**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<TRANSFORMER>				<THERMISTOR>			
T331	1-404-584-11	COIL		THP601A	1-808-059-31	THERMISTOR, POSITIVE	
<CRYSTAL>				*****			
X331	1-567-307-11	OSCILLATOR, CRYSTAL		*A-1296-476-A	A BOARD, COMPLETE		
X332	1-567-131-00	OSCILLATOR, CRYSTAL		*****			
*****				A	1-465-053-11	TUNER, ET (UV-615S)	
*1-629-720-21	F2 BOARD		*****	*4-380-698-01	CASE (MAIN), SHIELD, A1		
<CONNECTOR>				*4-380-699-01	CASE (UPPER LID), SHIELD, A1		
CNF262	*1-566-664-11	PIN, CONNECTOR 4P		*4-382-701-01	CASE (BOTTOM LID), SHIELD, A2		
<SWITCH>				<CAPACITOR>			
S1701A	1-571-410-11	SWITCH, PUSH (AC POWER) (1 KEY)		C101	1-126-233-11	ELECT	22MF 20% 50V
*****				C102	1-126-103-11	ELECT	470MF 20% 16V
*1-629-719-21	F1 BOARD		*****	C103	1-106-220-00	MYLAR	0.1MF 10% 100V
<CAPACITOR>				C104	1-106-216-00	MYLAR	0.068MF 10% 100V
C1601A	1-136-518-11	FILM	0.33MF 20% 300V	C105	1-106-216-00	MYLAR	0.068MF 10% 100V
C1602A	1-136-519-11	FILM	0.47MF 20% 300V	C106	1-101-004-00	CERAMIC	0.01MF 50V
C1603A	1-162-578-51	CERAMIC	0.0047MF 20% 400V	C107	1-102-963-00	CERAMIC	33PF 5% 50V
C1604A	1-162-578-51	CERAMIC	0.0047MF 20% 400V	C108	1-124-963-11	ELECT	33MF 20% 16V
C1605A	1-162-578-51	CERAMIC	0.0047MF 20% 400V	C109	1-101-003-00	CERAMIC	0.0047MF 50V
C1606A	1-162-578-51	CERAMIC	0.0047MF 20% 400V	C110	1-124-499-11	ELECT	1MF 20% 50V
C1607A	1-161-964-61	CERAMIC	0.0047MF 250V	C111	1-101-003-00	CERAMIC	0.0047MF 50V
<CONNECTOR>				C112	1-101-003-00	CERAMIC	0.0047MF 50V
CNF61	*1-566-664-11	PIN, CONNECTOR 4P		C113	1-101-003-00	CERAMIC	0.0047MF 50V
CNF64	*1-506-348-XX	PIN, CONNECTOR 3P		C114	1-124-963-11	ELECT	33MF 20% 16V
CNF65	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		C118	1-101-880-00	CERAMIC	47PF 5% 50V
CNF66	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		C119	1-126-101-11	ELECT	100MF 20% 16V
CNF67	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)		C120	1-124-925-11	ELECT	2.2MF 20% 50V
CNF162	*1-506-348-XX	PIN, CONNECTOR 4P		C121	1-101-003-00	CERAMIC	0.0047MF 50V
<FUSE>				C122	1-101-003-00	CERAMIC	0.0047MF 50V
F1601A	1-532-350-11	FUSE, TIME-LAG 4A/250V		C123	1-101-003-00	CERAMIC	0.0047MF 50V
	1-533-087-00	HOLDER, FUSE; F1601		C124	1-101-888-00	CERAMIC	68PF 5% 50V
<FILTER>				C125	1-101-888-00	CERAMIC	68PF 5% 50V
LF1601A	1-421-866-12	LFT		C127	1-101-003-00	CERAMIC	0.0047MF 50V
LF1602A	1-421-776-11	LFT		C128	1-124-963-11	ELECT	33MF 20% 16V
LF1603A	1-421-592-11	TRANSFORMER, FERRITE		C129	1-101-888-00	CERAMIC	68PF 5% 50V
<RESISTOR>				C130	1-101-004-00	CERAMIC	0.01MF 50V
R1601A	1-246-513-75	CARBON	47K 5% 1/4W	C131	1-101-006-00	CERAMIC	0.047MF 50V
R1602A	1-244-945-91	CARBON	1M 5% 1/2W	C132	1-124-499-11	ELECT	1MF 20% 50V
R1603A	1-217-328-11	WIREWOUND	2.7 10% 7W F	C133	1-101-003-00	CERAMIC	0.0047MF 50V
R1604A	1-246-513-75	CARBON	47K 5% 1/4W	C134	1-124-499-11	ELECT	1MF 20% 50V
R1605A	1-218-265-91	METAL GLAZE	8.2M 5% 1W	C135	1-101-004-00	CERAMIC	0.01MF 50V
				C136	1-101-006-00	CERAMIC	0.047MF 50V
				C137	1-101-880-00	CERAMIC	47PF 5% 50V
				C138	1-124-925-11	ELECT	2.2MF 20% 50V
				C139	1-123-875-11	ELECT	10MF 20% 50V
				C140	1-108-614-11	MYLAR	0.001MF 10% 100V
				C141	1-136-298-00	FILM	0.0033MF 2% 100V
				C142	1-102-816-00	CERAMIC	120PF 5% 50V
				C143	1-101-361-00	CERAMIC	150PF 5% 50V
				C144	1-124-477-11	ELECT	47MF 20% 16V
				C145	1-124-477-11	ELECT	47MF 20% 16V
				C146	1-124-477-11	ELECT	47MF 20% 16V
				C147	1-124-477-11	ELECT	47MF 20% 16V
				C148	1-123-875-11	ELECT	10MF 20% 50V
				C149	1-136-153-00	FILM	0.01MF 5% 50V
				C150	1-136-153-00	FILM	0.01MF 5% 50V
				C151	1-126-233-11	ELECT	22MF 20% 50V
				C152	1-126-233-11	ELECT	22MF 20% 50V
				C153	1-136-165-00	FILM	0.1MF 5% 50V
				C154	1-136-169-00	FILM	0.22MF 5% 50V

**A**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C155	1-124-963-11	ELECT	33MF 20% 16V	Q101	8-729-900-61	TRANSISTOR DTA114ES	
C156	1-136-157-00	FILM	0.022MF 5% 50V	Q102	8-729-900-61	TRANSISTOR DTA114ES	
C157	1-136-161-00	FILM	0.047MF 5% 50V	Q103	8-729-900-61	TRANSISTOR DTA114ES	
C158	1-124-963-11	ELECT	33MF 20% 16V	Q104	8-729-900-61	TRANSISTOR DTA114ES	
C159	1-124-477-11	ELECT	47MF 20% 16V	Q105	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C161	1-124-477-11	ELECT	47MF 20% 16V	Q106	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C162	1-102-816-00	CERAMIC	120PF 5% 50V	Q107	8-729-173-38	TRANSISTOR 2SA733-K	
C163	1-124-927-11	ELECT	4.7MF 20% 50V	Q108	8-729-900-65	TRANSISTOR DTA144ES	
C164	1-106-367-00	MYLAR	0.01MF 10% 400V	Q109	8-729-900-89	TRANSISTOR DTC144ES	
C165	1-136-287-11	FILM	0.0047MF 5% 50V	Q110	8-729-173-38	TRANSISTOR 2SA733-K	
C167	1-124-499-11	ELECT	1MF 20% 50V	Q111	8-729-900-89	TRANSISTOR DTC144ES	
C168	1-106-228-00	MYLAR	0.22MF 10% 100V	Q112	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C169	1-123-875-11	ELECT	10MF 20% 50V	Q113	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C174	1-124-499-11	ELECT	1MF 20% 50V	Q116	8-729-900-65	TRANSISTOR DTA144ES	
C177	1-102-119-00	CERAMIC	0.0015MF 10% 50V	Q117	8-729-173-38	TRANSISTOR 2SA733-K	
C187	1-101-003-00	CERAMIC	0.0047MF 50V				
C188	1-124-963-11	ELECT	33MF 20% 16V				
C189	1-124-963-11	ELECT	33MF 20% 16V				
C190	1-106-220-00	MYLAR	0.1MF 10% 100V				
<FILTER>				<RESISTOR>			
CD102	1-404-745-11	DISCRIMINATOR, CERAMIC		R101	1-249-405-11	CARBON 100 5% 1/4W	
CD103	1-404-746-11	DISCRIMINATOR, CERAMIC		R102	1-249-423-11	CARBON 3.3K 5% 1/4W	
CF101	1-404-134-00	TRAP, CERAMIC (5.5MHZ)		R103	1-249-433-11	CARBON 22K 5% 1/4W	
CF103	1-527-840-00	FILTER, CERAMIC		R104	1-249-429-11	CARBON 10K 5% 1/4W	
CF104	1-527-839-00	FILTER, CERAMIC		R105	1-249-418-11	CARBON 1.2K 5% 1/4W	
SWF101	1-577-254-11	SAWF		R106	1-247-891-00	CARBON 330K 5% 1/4W	
<CONNECTOR>				R107	1-249-421-11	CARBON 2.2K 5% 1/4W	
CNA11	*1-566-659-11	CONNECTOR, HINGE (SOCKET) 18P		R108	1-249-421-11	CARBON 2.2K 5% 1/4W	
<DIODE>				R109	1-249-423-11	CARBON 3.3K 5% 1/4W	
D105	8-719-109-92	DIODE RD6.2ES-B1		R110	1-249-410-11	CARBON 270 5% 1/4W	
D106	8-719-911-19	DIODE 1SS119		R111	1-249-418-11	CARBON 1.2K 5% 1/4W	
D108	8-719-000-06	DIODE MC921		R112	1-249-421-11	CARBON 2.2K 5% 1/4W	
D110	8-719-911-19	DIODE 1SS119		R114	1-249-413-11	CARBON 470 5% 1/4W	
D111	8-719-109-68	DIODE RD3.6ES-B1		R115	1-249-413-11	CARBON 470 5% 1/4W	
<IC>				R116	1-249-419-11	CARBON 1.5K 5% 1/4W	
IC101	8-759-909-08	IC TDA3541		R117	1-249-431-11	CARBON 15K 5% 1/4W	
IC102	8-759-973-86	IC TDA2558		R118	1-249-425-11	CARBON 4.7K 5% 1/4W	
IC103	8-759-030-48	IC TDA6600-2		R119	1-249-417-11	CARBON 1K 5% 1/4W	
IC104	8-759-946-99	IC TDA2595-V7		R121	1-249-429-11	CARBON 10K 5% 1/4W	
<COIL>				R122	1-249-436-11	CARBON 39K 5% 1/4W	
L101	1-408-226-00	INDUCTOR 82UH		R123	1-249-417-11	CARBON 1K 5% 1/4W	
L102	1-410-116-11	INDUCTOR 0.56MMH		R124	1-249-423-11	CARBON 3.3K 5% 1/4W	
L103	1-408-406-00	INDUCTOR 5.6UH		R125	1-249-429-11	CARBON 10K 5% 1/4W	
L104	1-408-411-00	INDUCTOR 15UH		R126	1-249-436-11	CARBON 39K 5% 1/4W	
L106	1-408-415-00	INDUCTOR 33UH		R127	1-249-432-11	CARBON 18K 5% 1/4W	
L107	1-408-406-00	INDUCTOR 5.6UH		R128	1-249-432-11	CARBON 18K 5% 1/4W	
L108	1-408-412-00	INDUCTOR 18UH		R129	1-249-429-11	CARBON 10K 5% 1/4W	
L109	1-408-412-00	INDUCTOR 18UH		R130	1-249-429-11	CARBON 10K 5% 1/4W	
L110	1-410-064-11	INDUCTOR 2.7MMH		R132	1-249-414-11	CARBON 560 5% 1/4W	
L111	1-408-421-00	INDUCTOR 100UH		R133	1-249-425-11	CARBON 4.7K 5% 1/4W	
L113	1-408-399-00	INDUCTOR 1.5UH		R134	1-249-414-11	CARBON 560 5% 1/4W	
<TRANSISTOR>				R135	1-249-419-11	CARBON 1.5K 5% 1/4W	
				R136	1-249-414-11	CARBON 560 5% 1/4W	
				R137	1-249-414-11	CARBON 560 5% 1/4W	
				R138	1-249-419-11	CARBON 1.5K 5% 1/4W	
				R139	1-249-431-11	CARBON 15K 5% 1/4W	
				R140	1-249-441-11	CARBON 100K 5% 1/4W	
				R141	1-249-425-11	CARBON 4.7K 5% 1/4W	
				R142	1-249-441-11	CARBON 100K 5% 1/4W	
				R143	1-249-441-11	CARBON 100K 5% 1/4W	
				R144	1-249-422-11	CARBON 2.7K 5% 1/4W	
				R146	1-249-424-11	CARBON 3.9K 5% 1/4W	
				R148	1-249-413-11	CARBON 470 5% 1/4W	
				R150	1-249-423-11	CARBON 3.3K 5% 1/4W	
				R151	1-249-423-11	CARBON 3.3K 5% 1/4W	
				R152	1-249-431-11	CARBON 15K 5% 1/4W	



C

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<VARIABLE RESISTOR>				C508	1-106-375-12	MYLAR	0.022MF 10% 250V
				C509	1-106-220-00	MYLAR	0.1MF 10% 100V
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M		C510	1-161-959-00	CERAMIC	22PF 10% 500V
RV702	1-230-619-11	RES, ADJ, METAL GLAZE 110M		C511	1-108-620-11	MYLAR	0.0033MF 10% 100V
RV703	1-237-749-11	RES, ADJ, CARBON 2200		C512	1-106-220-00	MYLAR	0.1MF 10% 100V
RV704	1-237-749-11	RES, ADJ, CARBON 2200		C513	1-108-614-11	MYLAR	0.001MF 10% 100V
*****				C514	1-106-228-00	MYLAR	0.22MF 10% 100V
*A-1345-721-A D BOARD, COMPLETE				C515	1-124-499-11	ELECT	1MF 20% 50V
*****				C516	1-108-614-11	MYLAR	0.001MF 10% 100V
				C517	1-124-252-00	ELECT	0.33MF 20% 50V
*4-341-751-01 EYELET				C518	1-124-902-00	ELECT	0.47MF 20% 50V
*4-341-752-01 EYELET				C519	1-136-173-00	FILM	0.47MF 5% 50V
<CAPACITOR>				C520	1-102-121-00	CERAMIC	0.0022MF 10% 50V
C001	1-102-973-00	CERAMIC	100PF 5% 50V	C521	1-106-220-00	MYLAR	0.1MF 10% 100V
C003	1-106-220-00	MYLAR	0.1MF 10% 100V	C522	1-124-122-11	ELECT	100MF 20% 50V
C004	1-123-875-11	ELECT	10MF 20% 50V	C523	1-108-614-11	MYLAR	0.001MF 10% 100V
C005	1-102-074-00	CERAMIC	0.001MF 10% 50V	C524	1-108-798-11	MYLAR	0.0033MF 5% 50V
C007	1-106-383-00	MYLAR	0.047MF 10% 100V	C525	1-102-973-00	CERAMIC	100PF 5% 50V
C008	1-101-880-00	CERAMIC	47PF 5% 50V	C526	1-102-951-00	CERAMIC	15PF 5% 50V
C009	1-101-884-00	CERAMIC	56PF 5% 50V	C527	1-106-220-00	MYLAR	0.1MF 10% 100V
C010	1-124-122-11	ELECT	100MF 20% 50V	C531	1-124-190-00	ELECT	680MF 10% 25V
C011	1-101-004-00	CERAMIC	0.01MF 50V	C532	1-124-122-11	ELECT	100MF 20% 50V
C012	1-124-122-11	ELECT	100MF 20% 50V	C533	1-106-216-00	MYLAR	0.068MF 10% 100V
C013	1-101-004-00	CERAMIC	0.01MF 50V	C534	1-124-120-11	ELECT	220MF 20% 16V
C014	1-124-463-00	ELECT	0.1MF 20% 50V	C536	1-131-363-00	TANTALUM	4.7MF 10% 16V
C015	1-124-910-11	ELECT	47MF 20% 50V	C537	1-124-499-11	ELECT	1MF 20% 50V
C016	1-101-004-00	CERAMIC	0.01MF 50V	C538	1-108-614-11	MYLAR	0.001MF 10% 100V
C017	1-123-875-11	ELECT	10MF 20% 50V	C539	1-102-820-00	CERAMIC	330PF 5% 50V
C018	1-102-980-00	CERAMIC	270PF 5% 50V	C591	1-123-875-11	ELECT	10MF 20% 50V
C019	1-106-383-00	MYLAR	0.047MF 10% 100V	C592	1-124-910-11	ELECT	47MF 20% 50V
C020	1-102-973-00	CERAMIC	100PF 5% 50V	C593	1-102-820-00	CERAMIC	330PF 5% 50V
C021	1-102-973-00	CERAMIC	100PF 5% 50V	C601	1-162-599-12	CERAMIC	0.0047MF 250V
C022	1-124-910-11	ELECT	47MF 20% 50V	C602	1-162-599-12	CERAMIC	0.0047MF 250V
C023	1-124-499-11	ELECT	1MF 20% 50V	C603	1-162-599-12	CERAMIC	0.0047MF 250V
C024	1-124-499-11	ELECT	1MF 20% 50V	C604	1-125-318-00	ELECT (BLOCK)	220MF 20% 400V
C025	1-102-125-00	CERAMIC	0.0047MF 10% 50V	C605	1-124-122-11	ELECT	100MF 20% 50V
C026	1-102-125-00	CERAMIC	0.0047MF 10% 50V	C606	1-106-220-00	MYLAR	0.1MF 10% 100V
C027	1-106-220-00	MYLAR	0.1MF 10% 100V	C607	1-130-019-00	FILM	0.0012MF 5% 50V
C028	1-101-361-00	CERAMIC	150PF 5% 50V	C608	1-123-875-11	ELECT	10MF 20% 50V
C029	1-102-121-00	CERAMIC	0.0022MF 10% 50V	C611	1-124-122-11	ELECT	100MF 20% 50V
C030	1-102-953-00	CERAMIC	18PF 5% 50V	C612	1-162-115-00	CERAMIC	330PF 10% 2KV
C251	1-124-927-11	ELECT	4.7MF 20% 50V	C613	1-136-539-11	FILM	0.0022MF 3% 2KV
C252	1-124-927-11	ELECT	4.7MF 20% 50V	C614	1-102-030-00	CERAMIC	330PF 10% 500V
C253	1-124-122-11	ELECT	100MF 20% 50V	C615	1-124-557-11	ELECT	1000MF 20% 25V
C254	1-124-927-11	ELECT	4.7MF 20% 50V	C616	1-102-030-00	CERAMIC	330PF 10% 500V
C255	1-124-927-11	ELECT	4.7MF 20% 50V	C618	1-124-637-11	ELECT	1000MF 20% 50V
C256	1-106-220-00	MYLAR	0.1MF 10% 100V	C619	1-124-556-11	ELECT	2200MF 20% 16V
C257	1-101-004-00	CERAMIC	0.01MF 50V	C620	1-102-074-00	CERAMIC	0.001MF 10% 50V
C258	1-106-220-00	MYLAR	0.1MF 10% 100V	C621	1-124-347-00	ELECT	100MF 20% 160V
C260	1-106-220-00	MYLAR	0.1MF 10% 100V	C622	1-124-556-11	ELECT	2200MF 20% 16V
C265	1-102-074-00	CERAMIC	0.001MF 10% 50V	C623	1-124-910-11	ELECT	47MF 20% 50V
C266	1-102-074-00	CERAMIC	0.001MF 10% 50V	C624	1-124-122-11	ELECT	100MF 20% 50V
C401	1-124-910-11	ELECT	47MF 20% 50V	C625	1-124-360-00	ELECT	1000MF 20% 16V
C403	1-124-910-11	ELECT	47MF 20% 50V	C626	1-123-875-11	ELECT	10MF 20% 50V
C501	1-124-927-11	ELECT	4.7MF 20% 50V	C627	1-102-074-00	CERAMIC	0.001MF 10% 50V
C502	1-124-927-11	ELECT	4.7MF 20% 50V	C631	1-123-875-11	ELECT	10MF 20% 50V
C503	1-106-371-00	MYLAR	0.015MF 10% 400V	C632	1-102-074-00	CERAMIC	0.001MF 10% 50V
C504	1-101-361-00	CERAMIC	150PF 5% 50V	C633	1-124-927-11	ELECT	4.7MF 20% 50V
C505	1-108-794-11	MYLAR	0.0015MF 5% 50V	C636	1-123-382-00	ELECT	3.3MF 20% 50V
C506	1-106-375-12	MYLAR	0.022MF 10% 250V	C801	1-126-105-11	ELECT	1000MF 20% 35V
C507	1-130-783-00	MYLAR	0.33MF 10% 100V	C802	1-102-030-00	CERAMIC	330PF 10% 500V
				C804	1-123-948-00	ELECT	22MF 20% 250V
				C805	1-162-114-00	CERAMIC	0.0047MF 2KV

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C806	1-106-220-00	MYLAR	0.1MF 10% 100V	D506	8-719-000-12	DIODE MC931	
C807	1-106-395-00	MYLAR	0.15MF 10% 200V	D508	8-719-911-19	DIODE 1SS119	
C810	1-124-494-00	ELECT	33MF 160V	D511	8-719-911-55	DIODE U05G	
C811	1-136-111-00	FILM	1MF 5% 200V	D512	8-719-911-55	DIODE U05G	
C812	1-124-634-11	ELECT	1MF 20% 250V	D513	8-719-109-81	DIODE RD4.7ES-B2	
C813	1-102-212-00	CERAMIC	820PF 10% 500V	D591	8-719-911-19	DIODE 1SS119	
C814	1-161-754-00	CERAMIC	0.001MF 10% 2KV	D592	8-719-911-19	DIODE 1SS119	
C815	1-136-111-00	FILM	1MF 5% 200V	D593	8-719-911-19	DIODE 1SS119	
C817	1-136-549-11	FILM	0.0106MF 3% 1.4KV	D601	8-719-946-90	DIODE KBU4JL-6088	
C818	1-136-759-11	FILM	0.039MF 10% 630V	D602	8-719-925-06	DIODE ERC25-06S	
C819 $\Delta$	1-161-731-11	CERAMIC	0.001MF 10% 2KV	D603	8-719-911-55	DIODE U05G	
C820	1-106-218-00	MYLAR	0.0082MF 10% 400V	D604	8-719-911-55	DIODE U05G	
C821 $\Delta$	1-162-116-51	CERAMIC	680PF 10% 2KV	D605	8-719-911-55	DIODE U05G	
C822	1-102-114-00	CERAMIC	470PF 10% 50V	D606	8-719-925-06	DIODE ERC25-06S	
C823	1-106-359-00	MYLAR	0.0047MF 10% 400V	D607	8-719-925-06	DIODE ERC25-06S	
C824	1-102-212-00	CERAMIC	820PF 10% 500V	D608	8-719-925-06	DIODE ERC25-06S	
C825	1-106-375-12	MYLAR	0.022MF 10% 250V	D610	8-719-300-59	DIODE CTU-12S	
C826	1-123-875-11	ELECT	10MF 20% 50V	D611	8-719-928-08	DIODE ERD28-06S	
<FILTER>				D612	8-719-300-59	DIODE CTU-12S	
CF001	1-567-686-11	OSCILLATOR, CERAMIC		D613	8-719-925-06	DIODE ERC25-06S	
CF501	1-567-888-11	OSCILLATOR, CERAMIC		D614	8-719-925-06	DIODE ERC25-06S	
<CONNECTOR>				D615	8-719-109-90	DIODE RD5.6ES-B3	
CN801	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		D616	8-719-109-93	DIODE RD6.2ES-B2	
CND01	*1-564-884-11	PLUG, CONNECTOR 7P		D618	8-719-109-89	DIODE RD5.6ES-B2	
CND02	*1-564-886-11	PLUG, CONNECTOR 9P		D620	8-719-000-12	DIODE MC931	
CND11	*1-566-660-11	CONNECTOR, HINGE (PLUG) 18P		D622	8-719-911-19	DIODE 1SS119	
CND12	*1-564-884-11	PLUG, CONNECTOR 7P		D623	8-719-911-19	DIODE 1SS119	
CND18	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)		D624	8-719-911-19	DIODE 1SS119	
CND19	*1-564-881-11	PLUG, CONNECTOR 4P		D627	8-719-911-19	DIODE 1SS119	
CND21	*1-564-346-00	CONNECTOR, BOARD TO BOARD 18P		D630	8-719-110-39	DIODE RD15ES-B1	
CND23	*1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH)		D632	8-719-110-16	DIODE RD10ES-B1	
CND31	*1-564-346-00	CONNECTOR, BOARD TO BOARD 18P		D633	8-719-911-19	DIODE 1SS119	
CND41	*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)		D801	8-719-925-06	DIODE ERC25-06S	
CND45	*1-564-882-11	PLUG, CONNECTOR 5P		D802	8-719-925-06	DIODE ERC25-06S	
CND51	*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)		D803	8-719-300-65	DIODE ES1F	
CND64	*1-506-348-XX	PIN, CONNECTOR 3P		D804	8-719-911-55	DIODE U05G	
CND68	*1-564-879-11	PLUG, CONNECTOR 2P		D805	8-719-911-55	DIODE U05G	
CND82	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		D806	8-719-945-80	DIODE ERC06-15S	
CND83	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		D808	8-719-928-08	DIODE ERD28-08S	
CND84	*1-564-038-00	CONNECTOR PLUG, DY (MINI) 5P		D809	8-719-925-06	DIODE ERC25-06S	
CND91	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P		<IC>			
CND92	*1-560-125-00	PLUG, CONNECTOR (2.5MM) 5P		IC001	8-759-630-06	IC M50436-614SP	
CND94	*1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)		IC002	8-759-979-57	IC MB88503H-1022G	
<DIODE>				IC003	8-759-603-41	IC M58655P	
D001	8-719-911-19	DIODE 1SS119		IC004	8-759-157-40	IC UPC574J	
D002	8-719-911-19	DIODE 1SS119		IC251	8-759-803-31	IC LA4280	
D003	8-719-911-19	DIODE 1SS119		*4-368-683-01	SPRING; IC251		
D004	8-719-911-19	DIODE 1SS119		IC401	8-752-006-12	IC CX20061	
D005	8-719-109-71	DIODE RD3.9ES-B1		IC501	8-759-970-73	IC TEA2028B	
D007	8-719-109-89	DIODE RD5.6ES-B2		IC502	8-759-944-57	IC TDA8170	
D008	8-719-110-85	DIODE RD36ES-B4		*4-381-724-01	HOLDER, IC; IC502		
D009	8-719-109-89	DIODE RD5.6ES-B2		IC601	8-759-946-23	IC TEA2164	
D011	8-719-911-19	DIODE 1SS119		IC608	8-759-700-06	IC UPC7812H	
D012	8-719-911-19	DIODE 1SS119		<COIL>			
D013	8-719-911-19	DIODE 1SS119		L001	1-408-414-00	INDUCTOR 27UH	
D254	8-719-110-14	DIODE RD9.1ES-B3		L501	1-408-225-00	INDUCTOR 3.3UH	
D501	8-719-911-19	DIODE 1SS119		L601	*1-420-872-00	COIL, AIR CORE	
D504	8-719-911-55	DIODE U05G		L602	1-410-396-41	FERRITE BEAD INDUCTOR	
				L603	1-410-396-41	FERRITE BEAD INDUCTOR	

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Replace only with part number specified.

D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
L605	1-459-442-00	COIL (WITH CORE)		R018	1-249-417-11	CARBON 1K 5% 1/4W	
L606	1-421-013-00	COIL, (HORIZONTAL CHOKE) 25UH		R019	1-249-433-11	CARBON 22K 5% 1/4W	
L607	1-408-421-00	INDUCTOR 100UH		R020	1-249-433-11	CARBON 22K 5% 1/4W	
L803	1-459-104-00	COIL, DUST CORE		R021	1-249-433-11	CARBON 22K 5% 1/4W	
L804	1-408-239-00	INDUCTOR 4.7MMH		R022	1-249-433-11	CARBON 22K 5% 1/4W	
L805	1-459-652-12	HLC		R023	1-249-429-11	CARBON 10K 5% 1/4W	
L806	1-459-115-00	COIL, DCC-H		R024	1-249-429-11	CARBON 10K 5% 1/4W	
L807	1-407-504-00	INDUCTOR 10MMH		R025	1-249-417-11	CARBON 1K 5% 1/4W	
L809	*1-420-872-00	COIL, AIR CORE		R026	1-249-417-11	CARBON 1K 5% 1/4W	
L810	1-459-390-00	COIL (WITH CORE)		R027	1-249-417-11	CARBON 1K 5% 1/4W	
<IC LINK>				R028	1-249-417-11	CARBON 1K 5% 1/4W	
PS601A	1-532-984-91	LINK, IC 2A		R029	1-249-417-11	CARBON 1K 5% 1/4W	
PS602A	1-532-675-91	LINK, IC 1.5A		R030	1-249-425-11	CARBON 4.7K 5% 1/4W	
<TRANSISTOR>				R031	1-249-429-11	CARBON 10K 5% 1/4W	
Q001	8-729-600-24	TRANSISTOR 2SC403SP-51		R032	1-249-417-11	CARBON 1K 5% 1/4W	
Q002	8-729-173-38	TRANSISTOR 2SA733-K		R033	1-249-413-11	CARBON 470 5% 1/4W	
Q003	8-729-173-38	TRANSISTOR 2SA733-K		R034	1-249-413-11	CARBON 470 5% 1/4W	
Q004	8-729-173-38	TRANSISTOR 2SA733-K		R035	1-249-431-11	CARBON 15K 5% 1/4W	
Q252	8-729-900-36	TRANSISTOR DTC124ES		R036	1-249-421-11	CARBON 2.2K 5% 1/4W	
Q501	8-729-173-38	TRANSISTOR 2SA733-K		R037	1-249-417-11	CARBON 1K 5% 1/4W	
Q502	8-729-173-38	TRANSISTOR 2SA733-K		R038	1-249-417-11	CARBON 1K 5% 1/4W	
Q503	8-729-119-78	TRANSISTOR 2SC2785-HFE		R039	1-249-417-11	CARBON 1K 5% 1/4W	
Q505	8-729-114-96	TRANSISTOR 2SD774-34		R040	1-249-417-11	CARBON 1K 5% 1/4W	
Q506	8-729-140-97	TRANSISTOR 2SB734-34		R041	1-249-417-11	CARBON 1K 5% 1/4W	
Q507	8-729-173-38	TRANSISTOR 2SA733-K		R042	1-249-417-11	CARBON 1K 5% 1/4W	
Q591	8-729-119-78	TRANSISTOR 2SC2785-HFE		R043	1-249-417-11	CARBON 1K 5% 1/4W	
Q598	8-729-119-78	TRANSISTOR 2SC2785-HFE		R044	1-249-429-11	CARBON 10K 5% 1/4W	
Q601	8-729-122-03	TRANSISTOR 2SA1220A-Q		R045	1-249-417-11	CARBON 1K 5% 1/4W	
Q602	8-729-209-02	TRANSISTOR 2SD1548-LB		R046	1-249-429-11	CARBON 10K 5% 1/4W	
Q603	*4-368-683-01	SPRING; Q602		R047	1-249-409-11	CARBON 220 5% 1/4W	
Q604	8-729-820-15	TRANSISTOR 2SB1185-E		R048	1-249-417-11	CARBON 1K 5% 1/4W	
Q605	8-729-308-92	TRANSISTOR 2SD789-03C		R049	1-249-417-11	CARBON 1K 5% 1/4W	
Q606	8-729-119-78	TRANSISTOR 2SC2785-HFE		R050	1-249-433-11	CARBON 22K 5% 1/4W	
Q607	8-729-920-92	TRANSISTOR 2SD2096-EF		R051	1-249-429-11	CARBON 10K 5% 1/4W	
Q608	*4-368-683-01	SPRING		R052	1-249-439-11	CARBON 68K 5% 1/4W	
Q609	8-729-308-92	TRANSISTOR 2SD789-03C		R053	1-249-437-11	CARBON 47K 5% 1/4W	
Q801	8-729-119-78	TRANSISTOR 2SC2785-HFE		R054	1-249-417-11	CARBON 1K 5% 1/4W	
Q804	8-729-304-50	TRANSISTOR 2SD1941-06		R055	1-249-433-11	CARBON 22K 5% 1/4W	
Q805	*4-368-683-01	SPRING; Q804		R056	1-249-440-11	CARBON 82K 5% 1/4W	
Q805	8-729-119-80	TRANSISTOR 2SC2688-LK		R057	1-249-409-11	CARBON 220 5% 1/4W	
<RESISTOR>				R058	1-249-409-11	CARBON 220 5% 1/4W	
R001	1-249-417-11	CARBON 1K 5% 1/4W		R059	1-249-435-11	CARBON 33K 5% 1/4W	
R002	1-249-417-11	CARBON 1K 5% 1/4W		R060	1-249-436-11	CARBON 39K 5% 1/4W	
R003	1-249-417-11	CARBON 1K 5% 1/4W		R061	1-249-417-11	CARBON 1K 5% 1/4W	
R004	1-249-417-11	CARBON 1K 5% 1/4W		R062	1-249-411-11	CARBON 330 5% 1/4W	
R005	1-249-407-11	CARBON 150 5% 1/4W		R063	1-249-431-11	CARBON 15K 5% 1/4W	
R006	1-249-417-11	CARBON 1K 5% 1/4W		R064	1-249-429-11	CARBON 10K 5% 1/4W	
R007	1-249-405-11	CARBON 100 5% 1/4W		R067	1-249-413-11	CARBON 470 5% 1/4W	
R008	1-249-417-11	CARBON 1K 5% 1/4W		R068	1-249-421-11	CARBON 2.2K 5% 1/4W	
R009	1-249-417-11	CARBON 1K 5% 1/4W		R069	1-249-423-11	CARBON 3.3K 5% 1/4W	
R010	1-249-413-11	CARBON 470 5% 1/4W		R070	1-249-417-11	CARBON 1K 5% 1/4W	
R011	1-249-417-11	CARBON 1K 5% 1/4W		R071	1-249-417-11	CARBON 1K 5% 1/4W	
R012	1-249-417-11	CARBON 1K 5% 1/4W		R072	1-249-417-11	CARBON 1K 5% 1/4W	
R013	1-249-417-11	CARBON 1K 5% 1/4W		R073	1-249-417-11	CARBON 1K 5% 1/4W	
R014	1-249-417-11	CARBON 1K 5% 1/4W		R074	1-249-417-11	CARBON 1K 5% 1/4W	
R016	1-249-429-11	CARBON 10K 5% 1/4W		R075	1-249-417-11	CARBON 1K 5% 1/4W	
R017	1-249-417-11	CARBON 1K 5% 1/4W		R077	1-249-413-11	CARBON 470 5% 1/4W	
				R078	1-249-423-11	CARBON 3.3K 5% 1/4W	
				R079	1-249-435-11	CARBON 33K 5% 1/4W	
				R080	1-249-429-11	CARBON 10K 5% 1/4W	
				R081	1-249-441-11	CARBON 100K 5% 1/4W	
				R082	1-249-409-11	CARBON 220 5% 1/4W	
				R083	1-249-429-11	CARBON 10K 5% 1/4W	
				R084	1-249-413-11	CARBON 470 5% 1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK	REF.NO.	PART NO.	DESCRIPTION				REMARK
R085	1-249-429-11	CARBON	10K	5%	1/4W		R537	1-249-434-11	CARBON	27K	5%	1/4W	
R086	1-249-417-11	CARBON	1K	5%	1/4W		R538	1-247-883-00	CARBON	150K	5%	1/4W	
R087	1-249-417-11	CARBON	1K	5%	1/4W		R539	1-247-883-00	CARBON	150K	5%	1/4W	
R088	1-249-425-11	CARBON	4.7K	5%	1/4W		R540	1-249-399-11	CARBON	33	5%	1/4W	
R090	1-249-413-11	CARBON	470	5%	1/4W		R541	1-249-438-11	CARBON	56K	5%	1/4W	
R091	1-249-409-11	CARBON	220	5%	1/4W		R542	1-249-425-11	CARBON	4.7K	5%	1/4W	
R093	1-249-429-11	CARBON	10K	5%	1/4W		R543	1-249-451-11	CARBON	2.2	5%	1/4W	
R094	1-249-429-11	CARBON	10K	5%	1/4W		R544	1-247-745-11	CARBON	330	5%	1/2W	
R095	1-249-409-11	CARBON	220	5%	1/4W		R545	1-249-436-11	CARBON	39K	5%	1/4W	
R096	1-249-409-11	CARBON	220	5%	1/4W		R546	1-249-434-11	CARBON	27K	5%	1/4W	
R097	1-249-429-11	CARBON	10K	5%	1/4W		R547	1-249-426-11	CARBON	5.6K	5%	1/4W	
R098	1-249-429-11	CARBON	10K	5%	1/4W		R548	1-216-350-11	METAL OXIDE	1.2	5%	1W	F
R099	1-215-900-11	METAL OXIDE	22K	5%	2W	F	R549	1-215-890-11	METAL OXIDE	470	5%	2W	F
R251	1-249-417-11	CARBON	1K	5%	1/4W		R550	1-249-440-11	CARBON	82K	5%	1/4W	
R252	1-249-413-11	CARBON	470	5%	1/4W		R551	1-249-749-00	CARBON	2.2M	5%	1/4W	
R253	1-249-413-11	CARBON	470	5%	1/4W		R552	1-216-433-00	METAL OXIDE	1.2K	5%	1W	
R255	1-249-385-11	CARBON	2.2	5%	1/4W	F	R553	1-216-869-11	METAL OXIDE	1K	5%	1W	
R256	1-249-385-11	CARBON	2.2	5%	1/4W	F	R554	1-249-411-11	CARBON	330	5%	1/4W	
R260	1-249-393-11	CARBON	10	5%	1/4W		R555	1-249-749-00	CARBON	2.2M	5%	1/4W	
R261	1-249-429-11	CARBON	10K	5%	1/4W		R556	1-249-405-11	CARBON	100	5%	1/4W	
R262	1-249-413-11	CARBON	470	5%	1/4W		R557	1-249-425-11	CARBON	4.7K	5%	1/4W	
R263	1-249-421-11	CARBON	2.2K	5%	1/4W		R558	1-247-895-00	CARBON	470K	5%	1/4W	
R264	1-249-421-11	CARBON	2.2K	5%	1/4W		R559	1-249-427-11	CARBON	6.8K	5%	1/4W	
R265	1-249-425-11	CARBON	4.7K	5%	1/4W		R560	1-249-411-11	CARBON	330	5%	1/4W	
R266	1-249-425-11	CARBON	4.7K	5%	1/4W		R591	1-249-427-11	CARBON	6.8K	5%	1/4W	
R401	1-249-434-11	CARBON	27K	5%	1/4W		R592	1-249-429-11	CARBON	10K	5%	1/4W	
R402	1-249-435-11	CARBON	33K	5%	1/4W		R593	1-249-429-11	CARBON	10K	5%	1/4W	
R410	1-249-413-11	CARBON	470	5%	1/4W		R594	1-249-424-11	CARBON	3.9K	5%	1/4W	
R411	1-249-413-11	CARBON	470	5%	1/4W		R595	1-249-417-11	CARBON	1K	5%	1/4W	
R412	1-249-413-11	CARBON	470	5%	1/4W		R596	1-249-425-11	CARBON	4.7K	5%	1/4W	
R500	1-247-897-11	CARBON	560K	5%	1/4W		R597	1-249-425-11	CARBON	4.7K	5%	1/4W	
R501	1-249-413-11	CARBON	470	5%	1/4W		R598	1-249-405-11	CARBON	100	5%	1/4W	
R502	1-249-409-11	CARBON	220	5%	1/4W		R599	1-249-405-11	CARBON	100	5%	1/4W	
R503	1-249-410-11	CARBON	270	5%	1/4W		R602	1-215-901-00	METAL OXIDE	33K	5%	2W	F
R504	1-215-427-00	METAL	1.8K	1%	1/6W		R603	1-216-359-00	METAL OXIDE	6.8	5%	1W	F
R505	1-249-431-11	CARBON	15K	5%	1/4W		R604	1-249-414-11	CARBON	560	5%	1/4W	
R506	1-249-428-11	CARBON	8.2K	5%	1/4W		R605	1-215-469-00	METAL	100K	1%	1/6W	
R507	1-247-891-00	CARBON	330K	5%	1/4W		R606	1-249-426-11	CARBON	5.6K	5%	1/4W	
R509	1-249-424-11	CARBON	3.9K	5%	1/4W		R607	1-249-434-11	CARBON	27K	5%	1/4W	
R510	1-249-426-11	CARBON	5.6K	5%	1/4W		R608	1-215-901-00	METAL OXIDE	33K	5%	2W	F
R511	1-249-429-11	CARBON	10K	5%	1/4W		R609	1-249-401-11	CARBON	47	5%	1/4W	
R512	1-247-891-00	CARBON	330K	5%	1/4W		R610	1-249-393-11	CARBON	10	5%	1/4W	F
R513	1-249-429-11	CARBON	10K	5%	1/4W		R611	1-249-385-11	CARBON	2.2	5%	1/4W	F
R514	1-249-409-11	CARBON	220	5%	1/4W		R612	1-207-905-00	WIREWOUND	0.27	10%	2W	F
R515	1-249-423-11	CARBON	3.3K	5%	1/4W		R613	1-249-401-11	CARBON	47	5%	1/4W	
R516	1-249-408-11	CARBON	180	5%	1/4W		R614	1-205-919-11	WIREWOUND	220	10%	10W	F
R517	1-249-429-11	CARBON	10K	5%	1/4W		R616	1-249-417-11	CARBON	1K	5%	1/4W	
R518	1-249-437-11	CARBON	47K	5%	1/4W		R617	1-249-411-11	CARBON	330	5%	1/4W	
R519	1-249-433-11	CARBON	22K	5%	1/4W		R618	1-216-431-11	METAL OXIDE	560	5%	1W	
R520	1-249-411-11	CARBON	330	5%	1/4W		R619	1-249-429-11	CARBON	10K	5%	1/4W	
R521	1-249-405-11	CARBON	100	5%	1/4W		R620	1-249-433-11	CARBON	22K	5%	1/4W	
R522	1-215-469-00	METAL	100K	1%	1/6W		R621	1-249-431-11	CARBON	15K	5%	1/4W	
R523	1-249-417-11	CARBON	1K	5%	1/4W		R622	1-249-429-11	CARBON	10K	5%	1/4W	
R524	1-249-421-11	CARBON	2.2K	5%	1/4W		R623	1-249-385-11	CARBON	2.2	5%	1/4W	F
R525	1-249-417-11	CARBON	1K	5%	1/4W		R624	1-249-411-11	CARBON	330	5%	1/4W	
R526	1-249-409-11	CARBON	220	5%	1/4W	F	R625	1-215-865-11	METAL OXIDE	220	5%	1W	
R527	1-249-431-11	CARBON	15K	5%	1/4W		R626	1-249-411-11	CARBON	330	5%	1/4W	
R528	1-249-408-11	CARBON	180	5%	1/4W		R628	1-249-393-11	CARBON	10	5%	1/4W	
R529	1-249-427-11	CARBON	6.8K	5%	1/4W		R629	1-249-411-11	CARBON	330	5%	1/4W	
R530	1-249-448-11	CARBON	1.2	5%	1/4W	F	R630	1-249-437-11	CARBON	47K	5%	1/4W	
R533	1-249-408-11	CARBON	180	5%	1/4W		R633	1-249-405-11	CARBON	100	5%	1/4W	
R534	1-247-901-11	CARBON	820K	5%	1/4W		R634	1-216-430-11	METAL OXIDE	390	5%	1W	
R535	1-249-753-15	CARBON	4.7M	5%	1/4W		R635	1-249-429-11	CARBON	10K	5%	1/4W	
R536	1-249-749-00	CARBON	2.2M	5%	1/4W								

**D V**

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D04	8-719-105-52	DIODE RD3.6M-B2		R40	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
D07	8-719-400-63	DIODE MA3068M		R41	1-216-041-00	METAL GLAZE 470 5%	1/10W
D08	8-719-400-63	DIODE MA3068M		R43	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
D09	8-719-400-18	DIODE MA152WK		R44	1-216-041-00	METAL GLAZE 470 5%	1/10W
D10	8-719-400-18	DIODE MA152WK					
D11	8-719-914-44	DIODE DAP202K		R45	1-216-049-00	METAL GLAZE 1K 5%	1/10W
D12	8-719-914-44	DIODE DAP202K		R46	1-216-311-00	METAL GLAZE 6.8 5%	1/10W
<IC>				R51	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
IC1	8-759-972-41	IC MAB8461P-W136		R52	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
IC2	8-759-972-96	IC SAA5231-V6		R53	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
IC3	8-759-013-21	IC SDA5241					
IC4	8-759-230-68	IC TMM2063P-70		R54	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
<COIL>				R55	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
L01	1-408-411-00	INDUCTOR 15UH		R56	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
L02	1-408-407-00	INDUCTOR 6.8UH		R57	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
L03	1-408-407-00	INDUCTOR 6.8UH		R58	1-216-049-00	METAL GLAZE 1K 5%	1/10W
L04	1-408-407-00	INDUCTOR 6.8UH					
L05	1-408-407-00	INDUCTOR 6.8UH		R59	1-216-056-00	METAL GLAZE 2K 5%	1/10W
L06	1-408-407-00	INDUCTOR 6.8UH		R60	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
<TRANSISTOR>				R61	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W
Q01	8-729-920-92	TRANSISTOR 2SD2096-EF		R62	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q02	8-729-807-50	TRANSISTOR 2SD1623-R		R63	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q03	8-729-900-53	TRANSISTOR DTC114EK					
Q04	8-729-271-22	TRANSISTOR 2SC2712-G		R64	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q05	8-729-807-50	TRANSISTOR 2SD1623-R		R65	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q06	8-729-271-22	TRANSISTOR 2SC2712-G		R66	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q07	8-729-900-98	TRANSISTOR DTC143TK		R67	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q09	8-729-800-68	TRANSISTOR 2SB815B6		R68	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q10	8-729-800-68	TRANSISTOR 2SB815B6					
Q11	8-729-800-68	TRANSISTOR 2SB815B6		R69	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
<RESISTOR>				<VARIABLE RESISTOR>			
R01	1-218-326-11	METAL GLAZE 470	1/2W	RV01	1-238-009-11	RES, ADJ, CARBON 220	
R02	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	<CRYSTAL>			
R04	1-218-326-11	METAL GLAZE 470	1/2W	X01	1-567-162-21	OSCILLATOR, CRYSTAL	
R05	1-216-025-00	METAL GLAZE 100 5%	1/10W	X02	1-567-495-21	OSCILLATOR, CRYSTAL	
R06	1-216-049-00	METAL GLAZE 1K 5%	1/10W	X03	1-577-082-11	VIBRATOR, CERAMIC	
R07	1-216-025-00	METAL GLAZE 100 5%	1/10W	*****			
R08	1-216-037-00	METAL GLAZE 330 5%	1/10W	*A-1371-373-A J1 BOARD, COMPLETE			
R09	1-216-091-00	METAL GLAZE 56K 5%	1/10W	*****			
R13	1-216-025-00	METAL GLAZE 100 5%	1/10W	<CAPACITOR>			
R14	1-216-025-00	METAL GLAZE 100 5%	1/10W	C1401	1-123-875-11	ELECT 10MF 20%	50V
R15	1-216-121-00	METAL GLAZE 1M 5%	1/10W	C1402	1-126-103-11	ELECT 470MF 20%	16V
R16	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W	C1403	1-102-112-00	CERAMIC 330PF 10%	50V
R17	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C1404	1-124-902-00	ELECT 0.47MF 20%	50V
R18	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C1405	1-101-003-00	CERAMIC 0.0047MF	50V
R19	1-216-037-00	METAL GLAZE 330 5%	1/10W				
R20	1-216-043-00	METAL GLAZE 560 5%	1/10W	C1406	1-124-902-00	ELECT 0.47MF 20%	50V
R27	1-216-013-00	METAL GLAZE 33 5%	1/10W	C1407	1-124-477-11	ELECT 47MF 20%	16V
R28	1-216-013-00	METAL GLAZE 33 5%	1/10W	C1408	1-126-101-11	ELECT 100MF 20%	16V
R29	1-216-013-00	METAL GLAZE 33 5%	1/10W	C1409	1-126-233-11	ELECT 22MF 20%	50V
R30	1-218-325-11	METAL GLAZE 120	1/4W	C1410	1-123-875-11	ELECT 10MF 20%	50V
R31	1-218-325-11	METAL GLAZE 120	1/4W				
R32	1-218-325-11	METAL GLAZE 120	1/4W	C1411	1-123-875-11	ELECT 10MF 20%	50V
R33	1-216-023-00	METAL GLAZE 82 5%	1/10W	C1412	1-124-477-11	ELECT 47MF 20%	16V
R34	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C1413	1-124-477-11	ELECT 47MF 20%	16V
R37	1-216-025-00	METAL GLAZE 100 5%	1/10W	C1414	1-123-875-11	ELECT 10MF 20%	50V
				C1415	1-124-902-00	ELECT 0.47MF 20%	50V
R38	1-216-047-00	METAL GLAZE 820 5%	1/10W				
				C1416	1-124-902-00	ELECT 0.47MF 20%	50V
				C1417	1-124-120-11	ELECT 220MF 20%	16V
				C1418	1-102-112-00	CERAMIC 330PF 10%	50V
				C1419	1-102-112-00	CERAMIC 330PF 10%	50V
				C1421	1-124-477-11	ELECT 47MF 20%	16V
				C1423	1-106-375-12	MYLAR 0.022MF 10%	250V

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R1506	1-247-895-00	CARBON	470K 5% 1/4W				
R1509	1-247-887-00	CARBON	220K 5% 1/4W				
R1510	1-249-426-11	CARBON	5.6K 5% 1/4W				
R1511	1-249-417-11	CARBON	1K 5% 1/4W				
R1512	1-249-429-11	CARBON	10K 5% 1/4W				
R1513	1-249-438-11	CARBON	56K 5% 1/4W				
R1514	1-249-417-11	CARBON	1K 5% 1/4W				
R1515	1-247-899-11	CARBON	680K 5% 1/4W				
R1516	1-249-432-11	CARBON	18K 5% 1/4W				
R1517	1-249-410-11	CARBON	270 5% 1/4W				
R1518	1-249-429-11	CARBON	10K 5% 1/4W				
R1519	1-247-883-00	CARBON	150K 5% 1/4W				
R1520	1-247-895-00	CARBON	470K 5% 1/4W				
R1521	1-249-425-11	CARBON	4.7K 5% 1/4W				
R1556	1-249-426-11	CARBON	5.6K 5% 1/4W				
<VARIABLE RESISTOR>							
RV1501	1-238-023-11	RES, ADJ, CARBON	470K				
RV1502	1-228-994-00	RES, ADJ, CARBON	10K				
RV1503	1-238-017-11	RES, ADJ, CARBON	22K				
RV1504	1-238-012-11	RES, ADJ, CARBON	1K				
RV1505	1-238-023-11	RES, ADJ, CARBON	470K				
RV1506	1-238-017-11	RES, ADJ, CARBON	22K				
RV1507	1-238-009-11	RES, ADJ, CARBON	220				
RV1508	1-238-016-11	RES, ADJ, CARBON	10K				
RV1509	1-228-999-00	RES, ADJ, CARBON	470K				
*****							
*1-629-783-21	J2 BOARD		*****				
<CAPACITOR>							
C1401	1-126-105-11	ELECT	1000MF 20% 35V				
C1402	1-126-105-11	ELECT	1000MF 20% 35V				
<CONNECTOR>							
CNJ23	*1-564-893-11	PLUG, CONNECTOR	4P				
CNJ242	*1-564-893-11	PLUG, CONNECTOR	4P				
<JACK>							
J1401	1-507-806-00	JACK					
<RESISTOR>							
R1401	1-247-708-11	CARBON	470 5% 1/4W				
R1402	1-247-708-11	CARBON	470 5% 1/4W				
*****							
*1-629-785-21	H3 BOARD		*****				
<CONNECTOR>							
CNH302	*1-564-898-11	PLUG, CONNECTOR	9P				
CNH303	*1-564-892-41	PLUG, CONNECTOR	3P				
<DIODE>							
D1405	8-719-812-41	DIODE TLR124					
*4-348-208-00	HOLDER, LED; D1405						
<SWITCH>							
S1401	1-571-085-21	SWITCH, TACTICLE					
S1402	1-571-085-21	SWITCH, TACTICLE					
S1403	1-571-085-21	SWITCH, TACTICLE					
S1404	1-571-085-21	SWITCH, TACTICLE					
S1405	1-571-085-21	SWITCH, TACTICLE					
S1406	1-571-085-21	SWITCH, TACTICLE					
S1407	1-571-085-21	SWITCH, TACTICLE					
S1408	1-571-085-21	SWITCH, TACTICLE					
S1409	1-571-085-21	SWITCH, TACTICLE					
S1410	1-571-085-21	SWITCH, TACTICLE					
S1411	1-571-085-21	SWITCH, TACTICLE					
S1412	1-571-085-21	SWITCH, TACTICLE					
S1414	1-571-085-21	SWITCH, TACTICLE					
*****							
*1-629-786-21	H4 BOARD		*****				
*4-374-987-01	GUIDE, LIGHT						
*4-388-955-01	BRACKET (B), LIGHT GUIDE						
<CONNECTOR>							
CNH401	*1-564-884-11	PLUG, CONNECTOR	7P				
CNH403	*1-564-880-31	PLUG, CONNECTOR	3P				
<DIODE>							
D1401	8-719-948-31	DIODE LD-201VR					
*4-387-825-01	HOLDER, LED; D1401						
D1402	8-719-948-31	DIODE LD-201VR					
*4-387-825-01	HOLDER, LED; D1402						
D1403	8-719-948-31	DIODE LD-201VR					
*4-387-825-01	HOLDER, LED; D1403						
D1404	8-719-948-31	DIODE LD-201VR					
<IC>							
IC1401	8-741-138-70	IC BX-1387					
IC1401	8-749-901-33	IC SBX1483-11					
*****							
*1-629-781-21	KS BOARD		*****				
<CAPACITOR>							
C202	1-124-902-00	ELECT	0.47MF 20% 50V				
C203	1-124-477-11	ELECT	47MF 20% 16V				
C204	1-124-902-00	ELECT	0.47MF 20% 50V				
C205	1-124-927-11	ELECT	4.7MF 20% 50V				
C206	1-124-477-11	ELECT	47MF 20% 16V				
C207	1-124-927-11	ELECT	4.7MF 20% 50V				
C213	1-126-233-11	ELECT	22MF 20% 50V				
C214	1-106-363-00	MYLAR	0.0068MF 10% 400V				
C217	1-106-363-00	MYLAR	0.0068MF 10% 400V				
C218	1-106-375-12	MYLAR	0.022MF 10% 250V				
C219	1-106-375-12	MYLAR	0.022MF 10% 250V				
C220	1-108-620-11	MYLAR	0.0033MF 10% 100V				
C221	1-108-620-11	MYLAR	0.0033MF 10% 100V				
C222	1-106-375-12	MYLAR	0.022MF 10% 250V				

Ks

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK
C223	1-106-375-12	MYLAR	0.022MF	10%	250V	R224	1-249-413-11	CARBON	470	5%	1/4W
C224	1-106-367-00	MYLAR	0.01MF	10%	400V	R225	1-249-417-11	CARBON	1K	5%	1/4W
C225	1-136-173-00	FILM	0.47MF	5%	50V						
C226	1-136-173-00	FILM	0.47MF	5%	50V	R226	1-249-417-11	CARBON	1K	5%	1/4W
C227	1-106-375-12	MYLAR	0.022MF	10%	250V	R227	1-249-417-11	CARBON	1K	5%	1/4W
						R228	1-249-417-11	CARBON	1K	5%	1/4W
C228	1-106-379-12	MYLAR	0.033MF	10%	250V	R229	1-249-441-11	CARBON	100K	5%	1/4W
C229	1-106-371-00	MYLAR	0.015MF	10%	400V	R230	1-249-441-11	CARBON	100K	5%	1/4W
C230	1-106-371-00	MYLAR	0.015MF	10%	400V						
C231	1-124-902-00	ELECT	0.47MF	20%	50V	R231	1-249-437-11	CARBON	47K	5%	1/4W
C232	1-123-875-11	ELECT	10MF	20%	50V	R232	1-249-437-11	CARBON	47K	5%	1/4W
						*****					
C233	1-102-114-00	CERAMIC	470PF	10%	50V	MISCELLANEOUS					
C234	1-102-114-00	CERAMIC	470PF	10%	50V	*****					
C235	1-102-114-00	CERAMIC	470PF	10%	50V						
C236	1-102-114-00	CERAMIC	470PF	10%	50V						
C237	1-124-902-00	ELECT	0.47MF	20%	50V						
C238	1-102-978-00	CERAMIC	220PF	5%	50V						
C239	1-126-103-11	ELECT	470MF	20%	16V						
<CONNECTOR>											
CNK21	*1-562-370-21	CONNECTOR, BOARD TO BOARD 18P									
CNK25	*1-564-880-31	PLUG, CONNECTOR 3P									
<DIODE>											
D201	8-719-110-14	DIODE RD9.1ES-B3									
D202	8-719-110-14	DIODE RD9.1ES-B3									
D205	8-719-110-04	DIODE RD7.5ES-B3									
D206	8-719-110-04	DIODE RD7.5ES-B3									
<IC>											
IC201	8-759-013-17	IC TDA6200									
<TRANSISTOR>											
Q201	8-729-119-78	TRANSISTOR 2SC2785-HFE									
Q202	8-729-119-78	TRANSISTOR 2SC2785-HFE									
<RESISTOR>											
R201	1-249-441-11	CARBON	100K	5%	1/4W						
R202	1-249-425-11	CARBON	4.7K	5%	1/4W						
R203	1-249-441-11	CARBON	100K	5%	1/4W						
R204	1-249-435-11	CARBON	33K	5%	1/4W						
R205	1-249-435-11	CARBON	33K	5%	1/4W						
R206	1-249-423-11	CARBON	3.3K	5%	1/4W						
R207	1-249-423-11	CARBON	3.3K	5%	1/4W						
R208	1-249-431-11	CARBON	15K	5%	1/4W						
R209	1-249-433-11	CARBON	22K	5%	1/4W						
R210	1-249-431-11	CARBON	15K	5%	1/4W						
R211	1-249-441-11	CARBON	100K	5%	1/4W						
R212	1-249-433-11	CARBON	22K	5%	1/4W						
R213	1-249-431-11	CARBON	15K	5%	1/4W						
R214	1-249-417-11	CARBON	1K	5%	1/4W						
R215	1-249-433-11	CARBON	22K	5%	1/4W						
R216	1-249-433-11	CARBON	22K	5%	1/4W						
R217	1-249-431-11	CARBON	15K	5%	1/4W						
R218	1-249-417-11	CARBON	1K	5%	1/4W						
R219	1-249-429-11	CARBON	10K	5%	1/4W						
R220	1-249-425-11	CARBON	4.7K	5%	1/4W						
R221	1-249-417-11	CARBON	1K	5%	1/4W						
R222	1-249-417-11	CARBON	1K	5%	1/4W						
R223	1-249-413-11	CARBON	470	5%	1/4W						